



SEQUENCE LISTING

<110> University of California
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 Rhee, Chae-Seo
 Lorenzo, Leoni M.
 Malini, Sen

<120> IMMUNOLOGIC COMPOSITIONS AND METHODS FOR
 STUDYING AND TREATING CANCERS EXPRESSING FRIZZLED ANTIGENS

<130> 22000-20629.00

<140> 09/847,102

<141> 2001-05-01

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<213> Artificial Sequence

<220>

<223> Forward primer

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20

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<213> Artificial Sequence

<220>

<223> Forward primer

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gccgtgccgc tctatctgtg ag

22

<210> 3

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Forward primer

<400> 3

ataggcctga tcatctgaat ctccttca

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 aacctcggct acaacgtgag accaagat 28

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 atcggctaca acctgacgca ca 22

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 tctggaatgt tcaccaaaca ttgaaact 28

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 ctcatgaaca agttcggctt ccagt 25

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 gatgaggatg agagtgaggt gacatcc 27

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<213> Artificial Sequence

<220>

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<400> 9

cacgcgctgt gcatggag

18

<210> 10

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Forward primer

<400> 10

catggaggcg cccaacaac

19

<210> 11

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Reverse primer

<400> 11

cacgatcagc gtcataaggt

20

<210> 12

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Reverse primer

<400> 12

gtggcgcggg aagtgctc

18

<210> 13

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<212> DNA

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<223> Reverse primer

<400> 13

tcttggcaca tcttcaaggt aataggtt

28

<210> 14

<211> 27

<212> DNA

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 <400> 14
 gtactggatg agcgggtgtga aagttgt 27

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 <400> 15
 atgggcgtgt acatagtgc taggaag 27

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 <400> 16
 tttctcataa agtttacgac aaggtgga 28

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 <400> 17
 cgcggtaggg taggcagtgg 20

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 <400> 18
 actcagactt cctggctctc aggtg 25

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 ggctcttctc cacgtactgg aacttct 27

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 <400> 20
 gtccttcagc gggtgctcct 20

 <210> 21
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 <220>
 <223> FZD2 primer (reverse)

 <400> 21
 cagcgtcttg cccgaccaga tcca 24

 <210> 22
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 <223> FZD2 primer (forward)

 <400> 22
 ctagcgccgc tcttcgtgta cctg 24

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 <211> 21
 <212> DNA
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 <223> FZD 5 primer (forward)

 <400> 23
 ttcatgtgcc tgggtggtggg c 21

 <210> 24
 <211> 21
 <212> DNA
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 <220>
 <223> FZD5 primer (reverse)

 <400> 24

tacacgtgcg acagggacac c 21

<210> 25
 <211> 20
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<220>
 <223> G3PDH primer (forward)

<400> 25
 accacagtcc atgccatcac 20

<210> 26
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> G3PDH primer (reverse)

<400> 26
 tacagcaaca ggggtggtgga 20

<210> 27
 <211> 75
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> pFZD2-TT

<400> 27
 Met Cys Val Gly Gln Asn His Ser Glu Asp Gly Ala Pro Ala Leu Leu
 1 5 10 15
 Thr Thr Ala Pro Pro Pro Gly Leu Gln Pro Gly Ala Gly Gly Thr Pro
 20 25 30
 Gly Gly Pro Gly Gly Gly Gly Ala Pro Pro Arg Tyr Ala Thr Leu Glu
 35 40 45
 His Pro Phe His Cys Gly Pro Ser Leu Val Asp Asp Ala Leu Ile Asn
 50 55 60
 Ser Thr Lys Ile Tyr Ser Tyr Phe Pro Ser Val
 65 70 75

<210> 28
 <211> 228
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Coding region for pFZD2-TT

<400> 28
 atgtgcgtcg gccagaacca ctccgaggac ggagctcccc cgctactcac caccgcgcgcg 60
 ccgccggggac tgcagccggg tgccgggggc accccgggtg gcccgggcgg cggcgggcgcgt 120
 cccccgcgcgt acgccacgct ggagcaccoc ttccactgcg gccccagcct ggtggacgac 180
 gccctgatca acagcaccaa gatctacagc tactttccca gcgtgtag 228

<210> 29
 <211> 75
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> pTT-FZD2

<400> 29
 Met Val Asp Asp Ala Leu Ile Asn Ser Thr Lys Ile Tyr Ser Tyr Phe
 1 5 10 15
 Pro Ser Val Gly Pro Ser Leu Cys Val Gly Gln Asn His Ser Glu Asp
 20 25 30
 Gly Ala Pro Ala Leu Leu Thr Thr Ala Pro Pro Pro Gly Leu Gln Pro
 35 40 45
 Gly Ala Gly Gly Thr Pro Gly Gly Pro Gly Gly Gly Gly Ala Pro Pro
 50 55 60
 Arg Tyr Ala Thr Leu Glu His Pro Phe His Cys
 65 70 75

<210> 30
 <211> 228
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Coding region for pTT-FZD2

<400> 30
 atggtggacg acgccctgat caacagcacc aagatctaca gctactttcc cagcgtgggc 60
 cccagcctgt gcgtcgcca gaaccactcc gaggacggag ctcccgcgct actcaccacc 120
 gcgccgccgc cgggactgca gccgggtgcc gggggcaccc cgggtggccc gggcggcggc 180
 ggcgctcccc cgcgctacgc cagcgtggag cacccttcc actgctag 228

<210> 31
 <211> 75
 <212> PRT
 <213> Artificial sequence

<220>
 <223> PFZD2-MMVF

<400> 31
 Met Cys Val Gly Gln Asn His Ser Glu Asp Gly Ala Pro Ala Leu Leu
 1 5 10 15
 Thr Thr Ala Pro Pro Pro Gly Leu Gln Pro Gly Ala Gly Gly Thr Pro
 20 25 30
 Gly Gly Pro Gly Gly Gly Gly Ala Pro Pro Arg Tyr Ala Thr Leu Glu
 35 40 45
 His Pro Phe His Cys Gly Pro Ser Leu Lys Leu Leu Ser Leu Ile Lys
 50 55 60
 Gly Val Ile Val His Arg Leu Glu Gly Val Glu
 65 70 75

<210> 32
 <211> 228

<212> DNA
 <213> Artificial Sequence

<220>
 <223> Coding region for PFZD2-MMVF

<400> 32
 atgtgcgtcg gccagaacca ctccgaggac ggagctcccg cgctactcac caccgcgccg 60
 ccgccgggac tgcagccggg tgccgggggc accccgggtg gcccgggcgg cggcggcgct 120
 cccccgcgct acgccacgct ggagcacccc ttccactgcg gccccagcct gaagctgctg 180
 agcctgatca agggcgatgat cgtgcaccgc ctggaggggc tggagtag 228

<210> 33
 <211> 75
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> PMMVF-FZD2

<400> 33
 Met Lys Leu Leu Ser Leu Ile Lys Gly Val Ile Val His Arg Leu Glu
 1 5 10 15
 Gly Val Glu Gly Pro Ser Leu Cys Val Gly Gln Asn His Ser Glu Asp
 20 25 30
 Gly Ala Pro Ala Leu Leu Thr Thr Ala Pro Pro Pro Gly Leu Gln Pro
 35 40 45
 Gly Ala Gly Gly Thr Pro Gly Gly Pro Gly Gly Gly Ala Pro Pro
 50 55 60
 Arg Tyr Ala Thr Leu Glu His Pro Phe His Cys
 65 70 75

<210> 34
 <211> 228
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Coding region for PMMVF-FZD2

<400> 34
 atgaagctgc tgagcctgat caagggcgtg atcgtgcacc gcctggaggg cgtggagggc 60
 cccagcctgt gcgtcggcca gaaccactcc gaggacggag ctcccgcgct actcaccacc 120
 gcgccgccgc cgggactgca gccgggtgcc gggggcaccc cgggtggccc gggcggcggc 180
 ggcgtcccc cgcgctacgc cacgctggag cacccttcc actgctag 228

<210> 35
 <211> 517
 <212> PRT
 <213> Mouse

<400> 35
 Met Ala Val Ser Trp Ile Val Phe Asp Leu Trp Leu Leu Thr Val Phe
 1 5 10 15
 Leu Gly Gln Ile Gly Gly His Ser Leu Phe Ser Cys Glu Pro Ile Thr
 20 25 30
 Leu Arg Met Cys Gln Asp Leu Pro Tyr Asn Thr Thr Phe Met Pro Asn

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Leu | Leu | Asn | His | Tyr | Asp | Gln | Gln | Thr | Ala | Ala | Leu | Ala | Met | Glu | Pro |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Phe | His | Pro | Met | Val | Asn | Leu | Asp | Cys | Ser | Arg | Asp | Phe | Arg | Pro | Phe |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Leu | Cys | Ala | Leu | Tyr | Ala | Pro | Ile | Cys | Met | Glu | Tyr | Gly | Arg | Val | Thr |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Leu | Pro | Cys | Arg | Arg | Leu | Cys | Gln | Arg | Ala | Tyr | Ser | Glu | Cys | Ser | Lys |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Leu | Met | Glu | Met | Phe | Gly | Val | Pro | Trp | Pro | Glu | Asp | Met | Glu | Cys | Ser |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Arg | Phe | Pro | Asp | Cys | Asp | Glu | Pro | Tyr | Pro | Arg | Leu | Val | Asp | Leu | Asn |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Leu | Val | Gly | Asp | Pro | Thr | Glu | Tyr | Ser | Phe | Leu | His | Val | Arg | Asp | Cys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Ser | Pro | Pro | Cys | Pro | Asn | Met | Tyr | Phe | Arg | Arg | Glu | Glu | Leu | Ser | Phe |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ala | Arg | Tyr | Phe | Ile | Gly | Leu | Ile | Ser | Ile | Ile | Cys | Leu | Ser | Ala | Thr |
| | | | 180 | | | | | 185 | | | | | | 190 | |
| Leu | Phe | Thr | Phe | Leu | Thr | Phe | Leu | Ile | Asp | Val | Thr | Arg | Phe | Arg | Tyr |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Pro | Glu | Arg | Pro | Ile | Ile | Phe | Tyr | Ala | Val | Cys | Tyr | Met | Met | Val | Ser |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Leu | Ile | Phe | Phe | Ile | Gly | Phe | Leu | Leu | Glu | Asp | Arg | Val | Ala | Cys | Asn |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ala | Ser | Ser | Pro | Ala | Gln | Tyr | Lys | Ala | Ser | Thr | Val | Thr | Gln | Gly | Ser |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| His | Asn | Lys | Ala | Cys | Thr | Met | Leu | Phe | Met | Val | Leu | Tyr | Phe | Phe | Thr |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Met | Ala | Gly | Ser | Val | Trp | Trp | Val | Ile | Leu | Thr | Ile | Thr | Trp | Phe | Leu |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Ala | Ala | Val | Pro | Lys | Trp | Gly | Ser | Glu | Ala | Ile | Glu | Lys | Lys | Ala | Leu |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Leu | Phe | His | Ala | Ser | Ala | Trp | Gly | Ile | Pro | Gly | Thr | Leu | Thr | Ile | Ile |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Leu | Leu | Ala | Met | Asn | Lys | Ile | Glu | Gly | Asp | Asn | Ile | Ser | Gly | Val | Cys |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Phe | Val | Gly | Leu | Tyr | Asp | Val | Asp | Ala | Leu | Arg | Tyr | Phe | Val | Leu | Ala |
| | | | 340 | | | | | 345 | | | | 350 | | | |
| Pro | Leu | Cys | Leu | Tyr | Val | Val | Val | Gly | Val | Ser | Leu | Leu | Leu | Ala | Gly |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Ile | Ile | Ser | Leu | Asn | Arg | Val | Arg | Ile | Glu | Ile | Pro | Leu | Glu | Lys | Glu |
| | 370 | | | | | 375 | | | | | | | | | |

Glu Ser Arg Gln Val Leu Gln Glu Pro Asp Phe Ala Gln Ser Leu Leu
 500 505 510
 Arg Asp Pro Asn Thr
 515

<210> 36
 <211> 500
 <212> PRT
 <213> Mouse

<400> 36
 Met Ala Trp Pro Gly Thr Gly Pro Ser Ser Arg Gly Ala Pro Gly Gly
 1 5 10 15
 Val Gly Leu Arg Leu Gly Leu Leu Leu Gln Phe Leu Leu Leu Leu Arg
 20 25 30
 Pro Thr Leu Gly Phe Gly Asp Glu Glu Glu Arg Arg Cys Asp Pro Ile
 35 40 45
 Arg Ile Ala Met Cys Gln Asn Leu Gly Tyr Asn Val Thr Lys Met Pro
 50 55 60
 Asn Leu Val Gly His Glu Leu Gln Thr Asp Ala Glu Leu Gln Leu Thr
 65 70 75 80
 Thr Phe Thr Pro Leu Ile Gln Tyr Gly Cys Ser Ser Gln Leu Gln Phe
 85 90 95
 Phe Leu Cys Ser Val Tyr Val Pro Met Cys Thr Glu Lys Ile Asn Ile
 100 105 110
 Pro Ile Gly Pro Cys Gly Gly Met Cys Leu Ser Val Lys Arg Arg Cys
 115 120 125
 Glu Pro Val Leu Arg Glu Phe Gly Phe Ala Trp Pro Asp Thr Leu Asn
 130 135 140
 Cys Ser Lys Phe Pro Pro Gln Asn Asp His Asn His Met Cys Met Glu
 145 150 155 160
 Gly Pro Gly Asp Glu Glu Val Pro Leu Pro His Lys Thr Pro Leu Asn
 165 170 175
 Cys Val Leu Lys Cys Gly Tyr Asp Ala Gly Leu Tyr Ser Arg Ser Ala
 180 185 190
 Lys Glu Phe Thr Asp Ile Trp Met Ala Val Trp Ala Ser Leu Cys Phe
 195 200 205
 Ile Ser Thr Thr Phe Thr Val Leu Thr Phe Leu Ile Asp Ser Ser Arg
 210 215 220
 Phe Ser Tyr Pro Glu Arg Pro Ile Ile Phe Leu Ser Met Cys Tyr Asn
 225 230 235 240
 Ile Tyr Ser Ile Ala Tyr Ile Val Arg Leu Thr Val Gly Arg Glu Arg
 245 250 255
 Ile Ser Cys Asp Phe Glu Glu Ala Ala Glu Pro Val Leu Ile Gln Glu
 260 265 270
 Gly Leu Lys Asn Thr Gly Cys Ala Ile Ile Phe Leu Leu Met Tyr Phe
 275 280 285
 Phe Gly Met Ala Ser Ser Ile Trp Trp Val Ile Leu Thr Leu Thr Trp
 290 295 300
 Phe Leu Ala Ala Gly Leu Lys Trp Gly His Glu Ala Ile Glu Met His
 305 310 315 320
 Ser Ser Tyr Phe His Ile Ala Ala Trp Ala Ile Pro Ala Val Lys Thr
 325 330 335
 Ile Val Ile Leu Ile Met Arg Leu Val Asp Ala Asp Glu Leu Thr Gly
 340 345 350
 Leu Cys Tyr Val Gly Asn Gln Asn Leu Asp Ala Leu Thr Gly Phe Val
 355 360 365

Val Ala Pro Leu Phe Thr Tyr Leu Val Ile Gly Thr Leu Phe Ile Ala
 370 375 380
 Ala Gly Leu Val Ala Leu Phe Lys Ile Arg Ser Asn Leu Gln Lys Asp
 385 390 395 400
 Gly Thr Lys Thr Asp Lys Leu Glu Arg Leu Met Val Lys Ile Gly Val
 405 410 415
 Phe Ser Val Leu Tyr Thr Val Pro Ala Thr Cys Val Ile Ala Cys Tyr
 420 425 430
 Phe Tyr Glu Ile Ser Asn Trp Ala Leu Phe Arg Tyr Ser Ala Asp Asp
 435 440 445
 Ser Asn Met Ala Val Glu Met Leu Lys Ile Phe Met Ser Leu Leu Val
 450 455 460
 Gly Ile Thr Ser Gly Met Trp Ile Trp Ser Ala Lys Thr Leu His Thr
 465 470 475 480
 Trp Gln Lys Cys Ser Asn Arg Leu Val Asn Ser Gly Lys Val Lys Arg
 485 490 495
 Glu Lys Arg Gly
 500

<210> 37
 <211> 599
 <212> PRT
 <213> Mouse

<400> 37
 Met Glu Trp Gly Tyr Leu Leu Glu Val Thr Ser Leu Leu Ala Ala Leu
 1 5 10 15
 Ala Val Leu Gln Arg Ser Ser Gly Ala Ala Ala Ser Ala Lys Glu
 20 25 30
 Leu Ala Cys Gln Glu Ile Thr Val Pro Leu Cys Lys Gly Ile Gly Tyr
 35 40 45
 Asn Tyr Thr Tyr Met Pro Asn Gln Phe Asn His Asp Thr Gln Asp Glu
 50 55 60
 Ala Gly Leu Glu Val His Gln Phe Trp Pro Leu Val Glu Ile Gln Cys
 65 70 75 80
 Ser Pro Asp Leu Lys Phe Phe Leu Cys Ser Met Tyr Thr Pro Ile Cys
 85 90 95
 Leu Glu Asp Tyr Lys Lys Pro Leu Pro Pro Cys Arg Ser Val Cys Glu
 100 105 110
 Arg Ala Lys Ala Gly Cys Ala Pro Leu Met Arg Gln Tyr Gly Phe Ala
 115 120 125
 Trp Pro Asp Arg Met Arg Cys Asp Arg Leu Pro Glu Gln Gly Asn Pro
 130 135 140
 Asp Thr Leu Cys Met Asp Tyr Asn Arg Thr Asp Leu Thr Thr Ala Ala
 145 150 155 160
 Pro Ser Pro Pro Arg Arg Leu Pro Pro Pro Pro Gly Glu Gln
 165 170 175
 Pro Pro Ser Gly Ser Gly His Ser Arg Pro Pro Gly Ala Arg Pro Pro
 180 185 190
 His Arg Gly Gly Ser Ser Arg Gly Ser Gly Asp Ala Ala Ala Ala Pro
 195 200 205
 Pro Ser Arg Gly Gly Lys Thr Gly Gln Ile Ala Asn Cys Ala Leu Pro
 210 215 220
 Cys His Asn Pro Phe Phe Ser Gln Asp Glu Arg Ala Phe Thr Val Phe
 225 230 235 240
 Trp Ile Gly Leu Trp Ser Val Leu Cys Phe Val Ser Thr Phe Ala Thr
 245 250 255

Val Ser Thr Phe Leu Ile Asp Met Glu Arg Phe Lys Tyr Pro Glu Arg
 260 265 270
 Pro Ile Ile Phe Leu Ser Ala Cys Tyr Leu Phe Val Ser Val Gly Tyr
 275 280 285
 Leu Val Arg Leu Val Ala Gly His Glu Lys Val Ala Cys Ser Gly Gly
 290 295 300
 Ala Pro Gly Ala Gly Gly Arg Gly Gly Ala Gly Ala Ala Ala Ala
 305 310 315 320
 Gly Ala Gly Ala Ala Gly Arg Gly Ala Ser Ser Pro Gly Ala Arg Gly
 325 330 335
 Glu Tyr Glu Glu Leu Gly Ala Val Glu Gln His Val Arg Tyr Glu Thr
 340 345 350
 Thr Gly Pro Ala Leu Cys Thr Val Val Phe Leu Leu Val Tyr Phe Phe
 355 360 365
 Gly Met Ala Ser Ser Ile Trp Trp Val Ile Leu Ser Leu Thr Trp Phe
 370 375 380
 Leu Ala Ala Gly Met Lys Trp Gly Asn Glu Ala Ile Ala Gly Tyr Ser
 385 390 395 400
 Gln Tyr Phe His Leu Ala Ala Trp Leu Val Pro Ser Val Lys Ser Ile
 405 410 415
 Ala Val Leu Ala Leu Ser Ser Val Asp Gly Asp Pro Val Ala Gly Ile
 420 425 430
 Cys Tyr Val Gly Asn Gln Ser Leu Asp Asn Leu Arg Gly Phe Val Leu
 435 440 445
 Ala Pro Leu Val Ile Tyr Leu Phe Ile Gly Thr Met Phe Leu Leu Ala
 450 455 460
 Gly Phe Val Ser Leu Phe Arg Ile Arg Ser Val Ile Lys Gln Gln Gly
 465 470 475 480
 Gly Pro Thr Lys Thr His Lys Leu Glu Lys Leu Met Ile Arg Leu Gly
 485 490 495
 Leu Phe Thr Val Leu Tyr Thr Val Pro Ala Ala Val Val Val Ala Cys
 500 505 510
 Leu Phe Tyr Glu Gln His Asn Arg Pro Arg Trp Glu Ala Thr His Asn
 515 520 525
 Cys Pro Cys Leu Arg Asp Leu Gln Pro Asp Gln Ala Arg Arg Pro Asp
 530 535 540
 Tyr Ala Val Phe Met Leu Lys Tyr Phe Met Cys Leu Val Val Gly Ile
 545 550 555 560
 Thr Ser Gly Val Trp Val Trp Ser Gly Lys Thr Leu Glu Ser Trp Arg
 565 570 575
 Ala Leu Cys Thr Arg Cys Cys Trp Ala Ser Lys Gly Ala Ala Val Gly
 580 585 590
 Ala Gly Ala Gly Gly Ser Gly
 595

<210> 38
 <211> 516
 <212> PRT
 <213> Homo sapiens

<400> 38
 Met Ala Arg Pro Asp Pro Ser Ala Pro Pro Ser Leu Leu Leu Leu Leu
 1 5 10 15
 Leu Ala Gln Leu Val Gly Arg Ala Ala Ala Ala Ser Lys Ala Pro Val
 20 25 30
 Cys Gln Glu Ile Thr Val Pro Met Cys Arg Gly Ile Gly Tyr Asn Leu
 35 40 45

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | His | Met | Pro | Asn | Gln | Phe | Asn | His | Asp | Thr | Gln | Asp | Glu | Ala | Gly |
| 50 | | | | | | 55 | | | | | 60 | | | | |
| Leu | Glu | Val | His | Gln | Phe | Trp | Pro | Leu | Val | Glu | Ile | Gln | Cys | Ser | Pro |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Asp | Leu | Arg | Phe | Phe | Leu | Cys | Thr | Met | Tyr | Thr | Pro | Ile | Cys | Leu | Pro |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Asp | Tyr | His | Lys | Pro | Leu | Pro | Pro | Cys | Arg | Ser | Val | Cys | Glu | Arg | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Lys | Ala | Gly | Cys | Ser | Pro | Leu | Met | Arg | Gln | Tyr | Gly | Phe | Ala | Trp | Pro |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Glu | Arg | Met | Ser | Cys | Asp | Arg | Leu | Pro | Val | Leu | Gly | Arg | Asp | Ala | Glu |
| 130 | | | | | | 135 | | | | | 140 | | | | |
| Val | Leu | Cys | Met | Asp | Tyr | Asn | Arg | Ser | Glu | Ala | Thr | Thr | Ala | Pro | Pro |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Arg | Pro | Phe | Pro | Ala | Lys | Pro | Thr | Leu | Pro | Gly | Pro | Pro | Gly | Ala | Pro |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ala | Ser | Gly | Gly | Arg | Thr | Gly | Gln | Val | Pro | Asn | Cys | Ala | Val | Pro | Cys |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Tyr | Gln | Pro | Ser | Phe | Ser | Ala | Asp | Glu | Arg | Thr | Phe | Ala | Thr | Phe | Trp |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Ile | Gly | Leu | Trp | Ser | Val | Leu | Cys | Phe | Ile | Ser | Thr | Ser | Thr | Thr | Val |
| 210 | | | | | | 215 | | | | | 220 | | | | |
| Ala | Thr | Phe | Leu | Ile | Asp | Met | Asp | Thr | Phe | Arg | Tyr | Pro | Glu | Arg | Pro |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ile | Ile | Phe | Leu | Ser | Ala | Cys | Tyr | Leu | Cys | Val | Ser | Leu | Gly | Phe | Leu |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Val | Arg | Leu | Val | Val | Gly | His | Ala | Ser | Val | Ala | Cys | Ser | Arg | Glu | His |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Asn | His | Ile | His | Tyr | Glu | Thr | Thr | Gly | Pro | Ala | Leu | Cys | Thr | Ile | Val |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Phe | Leu | Leu | Val | Tyr | Phe | Phe | Gly | Met | Ala | Ser | Ser | Ile | Trp | Trp | Val |
| 290 | | | | | | 295 | | | | | 300 | | | | |
| Ile | Leu | Ser | Leu | Thr | Trp | Phe | Leu | Ala | Ala | Ala | Met | Lys | Trp | Gly | Asn |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Glu | Ala | Ile | Ala | Gly | Tyr | Gly | Gln | Tyr | Phe | His | Leu | Ala | Ala | Trp | Leu |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Ile | Pro | Ser | Val | Lys | Ser | Ile | Thr | Ala | Leu | Ala | Leu | Ser | Ser | Val | Asp |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Gly | Asp | Pro | Val | Ala | Gly | Ile | Cys | Tyr | Val | Gly | Asn | Gln | Asn | Leu | Asn |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Ser | Leu | Arg | Arg | Phe | Val | Leu | Gly | Pro | Leu | Val | Leu | Tyr | Leu | Leu | Val |
| 370 | | | | | | 375 | | | | | 380 | | | | |
| Gly | Thr | Leu | Phe | Leu | Leu | Ala | Gly | Phe | Val | Ser | Leu | Phe | Arg | Ile | Arg |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Ser | Val | Ile | Lys | Gln | Gly | Gly | Thr | Lys | Thr | Asp | Lys | Leu | Glu | Lys | Leu |
| | | | 405 | | | | | | 410 | | | | | 415 | |
| Met | Ile | Arg | Ile | Gly | Ile | Phe | Thr | Leu | Leu | Tyr | Thr | Val | Pro | Ala | Ser |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Ile | Val | Val | Ala | Cys | Tyr | Leu | Tyr | Glu | Gln | His | Tyr | Arg | Glu | Ser | Trp |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Glu | Ala | Ala | Leu | Thr | Cys | Ala | Cys | Pro | Gly | His | Asp | Thr | Gly | Gln | Pro |
| | | 450 | | | | 455 | | | | | 460 | | | | |
| Arg | Ala | Lys | Pro | Glu | Tyr | Trp | Val | Leu | Met | Leu | Lys | Tyr | Phe | Met | Cys |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| Leu | Val | Val | Gly | Ile | Thr | Ser | Gly | Val | Trp | Ile | Trp | Ser | Gly | Lys | Thr |
| | | | 485 | | | | | 490 | | | | | | 495 | |
| Val | Glu | Ser | Trp | Arg | Arg | Phe | Thr | Ser | Arg | Cys | Cys | Cys | Arg | Pro | Arg |

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 Arg Gly His Lys
 515

 <210> 39
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 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Gly Ile Gly Tyr Asn Leu Thr Arg Met Pro Asn Leu Leu Gly His Thr
 50 55 60
 Ser Gln Gly Glu Ala Ala Ala Glu Leu Ala Glu Phe Ala Pro Leu Val
 65 70 75 80
 Gln Tyr Gly Cys His Ser His Leu Arg Phe Phe Leu Cys Ser Leu Tyr
 85 90 95
 Ala Pro Met Cys Thr Asp Gln Val Ser Thr Pro Ile Pro Ala Cys Arg
 100 105 110
 Pro Met Cys Glu Gln Ala Arg Leu Arg Cys Ala Pro Ile Met Glu Gln
 115 120 125
 Phe Asn Phe Gly Trp Pro Asp Ser Leu Asp Cys Ala Arg Leu Pro Thr
 130 135 140
 Arg Asn Asp Pro His Ala Leu Cys Met Glu Ala Pro Glu Asn Ala Thr
 145 150 155 160
 Ala Gly Pro Ala Glu Pro His Lys Gly Leu Gly Met Leu Pro Val Ala
 165 170 175
 Pro Arg Pro Ala Arg Pro Pro Gly Arg Ser Cys Ala Pro Arg Cys Gly
 180 185 190
 Pro Gly Val Glu Val Phe Trp Ser Arg Arg Asp Lys Asp Phe Ala Leu
 195 200 205
 Val Trp Met Ala Val Trp Ser Ala Leu Cys Phe Phe Ser Thr Ala Phe
 210 215 220
 Thr Val Leu Thr Phe Leu Leu Glu Pro His Arg Phe Gln Tyr Pro Glu
 225 230 235 240
 Arg Pro Ile Ile Phe Leu Ser Met Cys Tyr Asn Val Tyr Ser Leu Ala
 245 250 255
 Phe Leu Ile Arg Ala Val Ala Gly Ala Gln Ser Val Ala Cys Asp Gln
 260 265 270
 Glu Ala Gly Ala Leu Tyr Val Ile Gln Glu Gly Leu Glu Asn Thr Gly
 275 280 285
 Cys Thr Leu Val Phe Leu Leu Leu Tyr Tyr Phe Gly Met Ala Ser Ser
 290 295 300
 Leu Trp Trp Val Val Leu Thr Leu Thr Trp Phe Leu Ala Ala Gly Lys
 305 310 315 320
 Lys Trp Gly His Glu Ala Ile Glu Ala His Gly Ser Tyr Phe His Met
 325 330 335
 Ala Ala Trp Gly Leu Pro Ala Leu Lys Thr Ile Val Ile Leu Thr Leu
 340 345 350
 Arg Lys Val Ala Gly Asp Glu Leu Thr Gly Leu Cys Tyr Val Ala Ser
 355 360 365
 Thr Asp Ala Ala Ala Leu Thr Gly Phe Val Leu Val Pro Leu Ser Gly

| | | |
|---------------------|---------------------|-------------------------|
| 370 | 375 | 380 |
| Tyr Leu Val Leu Gly | Ser Ser Phe Leu Leu | Thr Gly Phe Val Ala Leu |
| 385 | 390 | 395 |
| Phe His Ile Arg Lys | Ile Met Lys Thr Gly | Gly Thr Asn Thr Glu Lys |
| 405 | 410 | 415 |
| Leu Glu Lys Leu Met | Val Lys Ile Gly Val | Phe Ser Ile Leu Tyr Thr |
| 420 | 425 | 430 |
| Val Pro Ala Thr Cys | Val Ile Val Cys Tyr | Val Tyr Glu Arg Leu Asn |
| 435 | 440 | 445 |
| Met Asp Phe Trp Arg | Leu Arg Ala Thr Glu | Gln Pro Cys Ala Ala Ala |
| 450 | 455 | 460 |
| Ala Gly Pro Gly Gly | Arg Arg Asp Cys Ser | Leu Pro Gly Gly Ser Val |
| 465 | 470 | 475 |
| Pro Thr Val Ala Val | Phe Met Leu Lys Ile | Phe Met Ser Leu Val Val |
| 485 | 490 | 495 |
| Gly Ile Thr Ser Gly | Val Trp Val Trp Ser | Ser Lys Thr Phe Gln Thr |
| 500 | 505 | 510 |
| Trp Gln Ser Leu Cys | Tyr Arg Lys Ile Ala | Ala Gly Arg Ala Arg Ala |
| 515 | 520 | 525 |
| Lys Ala Cys Arg Ala | | |
| 530 | | |

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|---------------------|-----------------|-----------------|-----------------|
| Leu Glu Ala Pro Leu | Leu Leu Gly Val | Arg Ala Gln Pro | Ala Gly Gln |
| 1 | 5 | 10 | 15 |
| Val Ser Gly Pro Gly | Gln Gln Arg Pro | Pro Pro Pro | Gln Pro Gln Gln |
| 20 | 25 | 30 | |
| Gly Gly Gln Gln Tyr | Asn Gly Glu Arg | Gly Ile Ser Ile | Pro Asp His |
| 35 | 40 | 45 | |
| Gly Tyr Cys Gln Pro | Ile Ser Ile Pro | Leu Cys Thr Asp | Ile Ala Tyr |
| 50 | 55 | 60 | |
| Asn Gln Thr Ile Met | Pro Asn Leu Leu | Gly His Thr Asn | Gln Glu Asp |
| 65 | 70 | 75 | 80 |
| Ala Gly Leu Glu Val | His Gln Phe Tyr | Pro Leu Val Lys | Val Gln Cys |
| 85 | 90 | 95 | |
| Ser Ala Glu Leu Lys | Phe Phe Leu Cys | Ser Met Tyr Ala | Pro Val Cys |
| 100 | 105 | 110 | |
| Thr Val Leu Glu Gln | Ala Leu Pro Cys | Arg Ser Leu Cys | Glu Arg |
| 115 | 120 | 125 | |
| Ala Gln Gly Cys Glu | Ala Leu Met Asn | Lys Phe Gly Phe | Gln Trp Pro |
| 130 | 135 | 140 | |
| Asp Thr Leu Lys Cys | Glu Lys Phe Pro | Val His Gly Ala | Gly Glu Leu |
| 145 | 150 | 155 | 160 |
| Cys Val Gly Gln Asn | Thr Ser Asp Lys | Gly Thr Pro Thr | Pro Ser Leu |
| 165 | 170 | 175 | |
| Leu Pro Glu Phe Trp | Thr Ser Asn Pro | Gln His Gly Leu | Gly Glu Lys |
| 180 | 185 | 190 | |
| Asp Cys Gly Ala Pro | Cys Glu Pro Thr | Lys Val Tyr Gly | Leu Met Tyr |
| 195 | 200 | 205 | |
| Phe Gly Pro Glu Glu | Leu Arg Phe Ser | Arg Thr Trp Ile | Gly Ile Trp |
| 210 | 215 | 220 | |
| Ser Val Leu Cys Cys | Ala Ser Thr Leu | Phe Thr Val Leu | Thr Tyr Leu |

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Val | Asp | Met | Arg | Arg | Phe | Ser | Tyr | Pro | Glu | Arg | Pro | Ile | Ile | Phe | Leu |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Ser | Gly | Cys | Tyr | Thr | Ala | Val | Ala | Val | Ala | Tyr | Ile | Ala | Gly | Phe | Leu |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Leu | Glu | Asp | Arg | Val | Val | Cys | Asn | Asp | Lys | Phe | Ala | Glu | Asp | Gly | Ala |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Arg | Thr | Val | Ala | Gln | Gly | Thr | Lys | Lys | Glu | Gly | Cys | Thr | Ile | Leu | Phe |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Met | Met | Leu | Tyr | Phe | Phe | Ser | Met | Ala | Ser | Ser | Ile | Trp | Trp | Val | Ile |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Leu | Ser | Leu | Thr | Trp | Phe | Leu | Ala | Ala | Gly | Met | Lys | Trp | Gly | His | Glu |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Ala | Ile | Glu | Ala | Asn | Ser | Gln | Tyr | Phe | His | Leu | Ala | Ala | Trp | Ala | Val |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Pro | Ala | Ile | Lys | Thr | Ile | Thr | Ile | Leu | Ala | Leu | Gly | Gln | Val | Asp | Gly |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Asp | Val | Leu | Ser | Gly | Val | Cys | Phe | Val | Gly | Leu | Asn | Asn | Val | Asp | Ala |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Leu | Arg | Gly | Phe | Val | Leu | Ala | Pro | Leu | Phe | Val | Tyr | Leu | Phe | Ile | Gly |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Thr | Ser | Phe | Leu | Leu | Ala | Gly | Phe | Val | Ser | Leu | Phe | Arg | Ile | Arg | Thr |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Ile | Met | Lys | His | Asp | Gly | Thr | Lys | Thr | Glu | Lys | Leu | Glu | Lys | Leu | Met |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Val | Arg | Ile | Gly | Val | Phe | Ser | Val | Leu | Tyr | Thr | Val | Pro | Ala | Thr | Ile |
| | | 435 | | | | | 440 | | | | | 445 | | | |
| Val | Ile | Ala | Cys | Tyr | Phe | Tyr | Glu | Gln | Ala | Phe | Arg | Asp | Gln | Trp | Glu |
| | 450 | | | | | 455 | | | | | 460 | | | | |
| Arg | Ser | Trp | Val | Ala | Gln | Ser | Cys | Lys | Ser | Tyr | Ala | Ile | Pro | Cys | Pro |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 |
| His | Leu | Gln | Gly | Gly | Gly | Gly | Val | Pro | Pro | His | Pro | Pro | Met | Ser | Pro |
| | | | 485 | | | | | 490 | | | | | 495 | | |
| Asp | Phe | Thr | Val | Phe | Met | Ile | Lys | Tyr | Leu | Met | Thr | Leu | Ile | Val | Gly |
| | | 500 | | | | | | 505 | | | | | 510 | | |
| Ile | Thr | Ser | Gly | Phe | Trp | Ile | Trp | Ser | Gly | Lys | Thr | Leu | Asn | Ser | Trp |
| | | 515 | | | | | 520 | | | | | 525 | | | |
| Arg | Lys | Phe | Tyr | Thr | Arg | Leu | Thr | Asn | Ser | Lys | Gln | Gly | Glu | Thr | Thr |
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<400> 41
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 20 25 30
 Glu Lys Gly Ile Ser Ile Pro Asp His Gly Phe Cys Gln Pro Ile Ser
 35 40 45
 Ile Pro Leu Cys Thr Asp Ile Ala Tyr Asn Gln Thr Ile Met Pro Asn
 50 55 60
 Leu Leu Gly His Thr Asn Gln Glu Asp Ala Gly Leu Glu Val His Gln
 65 70 75 80
 Phe Tyr Pro Leu Val Lys Val Gln Cys Ser Pro Glu Leu Arg Phe Phe

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | | 85 | | | | | 90 | | | | 95 | | | | |
| Leu | Cys | Ser | Met | Tyr | Ala | Pro | Val | Cys | Thr | Val | Leu | Glu | Gln | Ala | Ile | | |
| | | | 100 | | | | | 105 | | | | | 110 | | | | |
| Pro | Pro | Cys | Arg | Ser | Ile | Cys | Glu | Arg | Ala | Arg | Gln | Gly | Cys | Glu | Ala | | |
| | | 115 | | | | | 120 | | | | | 125 | | | | | |
| Leu | Met | Asn | Lys | Phe | Gly | Phe | Gln | Trp | Pro | Glu | Arg | Leu | Arg | Cys | Glu | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | |
| His | Phe | Pro | Arg | His | Gly | Ala | Glu | Gln | Ile | Cys | Val | Gly | Gln | Asn | His | | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | | |
| Ser | Glu | Asp | Gly | Thr | Pro | Ala | Leu | Leu | Thr | Thr | Ala | Pro | Pro | Ser | Gly | | |
| | | | 165 | | | | | | 170 | | | | | 175 | | | |
| Leu | Gln | Pro | Gly | Leu | Gly | Glu | Arg | Asp | Cys | Ala | Ala | Pro | Cys | Glu | Pro | | |
| | | 180 | | | | | | 185 | | | | | 190 | | | | |
| Ala | Arg | Pro | Asp | Gly | Ser | Met | Phe | Phe | Ser | His | His | His | Thr | Arg | Phe | | |
| | | 195 | | | | | 200 | | | | | | 205 | | | | |
| Ala | Arg | Leu | Trp | Ile | Leu | Thr | Trp | Ser | Val | Leu | Cys | Cys | Ala | Ser | Thr | | |
| | 210 | | | | | 215 | | | | | 220 | | | | | | |
| Phe | Phe | Thr | Val | Thr | Thr | Ser | Leu | Val | Ala | Met | Gln | Arg | Phe | Arg | Tyr | | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | | |
| Pro | Glu | Arg | Pro | Ile | Ile | Phe | Leu | Ser | Gly | Cys | Tyr | Thr | Met | Val | Ser | | |
| | | | 245 | | | | | | 250 | | | | | 255 | | | |
| Val | Ala | Tyr | Ile | Ala | Gly | Phe | Val | Leu | Gln | Glu | Arg | Val | Val | Cys | Asn | | |
| | | 260 | | | | | 265 | | | | | | 270 | | | | |
| Glu | Arg | Phe | Ser | Glu | Asp | Gly | Tyr | Arg | Thr | Val | Gly | Gln | Gly | Thr | Lys | | |
| | 275 | | | | | 280 | | | | | | 285 | | | | | |
| Lys | Glu | Gly | Cys | Thr | Ile | Leu | Phe | Met | Met | Leu | Tyr | Phe | Phe | Ser | Met | | |
| | 290 | | | | | 295 | | | | | 300 | | | | | | |
| Ala | Ser | Ser | Ile | Trp | Trp | Val | Ile | Leu | Ser | Leu | Thr | Trp | Phe | Leu | Ala | | |
| 305 | | | | 310 | | | | | | 315 | | | | | 320 | | |
| Ala | Gly | Met | Lys | Trp | Gly | His | Ala | Ala | Ile | Glu | Ala | Asn | Ser | Gln | Tyr | | |
| | | | 325 | | | | | | 330 | | | | | 335 | | | |
| Phe | His | Leu | Ala | Ala | Trp | Ala | Val | Pro | Ala | Val | Lys | Thr | Ile | Thr | Ile | | |
| | | 340 | | | | | 345 | | | | | | 350 | | | | |
| Leu | Ala | Met | Gly | Gln | Ile | Asp | Gly | Asp | Leu | Leu | Ser | Gly | Val | Cys | Phe | | |
| | 355 | | | | | 360 | | | | | | 365 | | | | | |
| Val | Gly | Leu | Asn | Arg | Leu | Asp | Pro | Leu | Arg | Gly | Phe | Val | Leu | Ala | Pro | | |
| | 370 | | | | 375 | | | | | | 380 | | | | | | |
| Leu | Phe | Val | Tyr | Leu | Phe | Ile | Gly | Thr | Ser | Phe | Leu | Leu | Ala | Gly | Phe | | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | | |
| Val | Ser | Leu | Phe | Arg | Ile | Arg | Thr | Ile | Met | Lys | His | Asp | Gly | Thr | Lys | | |
| | | | 405 | | | | | | 410 | | | | | 415 | | | |
| Thr | Glu | Pro | Leu | Glu | Arg | Leu | Met | Val | Arg | Ile | Gly | Val | Phe | Ser | Val | | |
| | | 420 | | | | | | 425 | | | | | 430 | | | | |
| Leu | Tyr | Thr | Val | Pro | Ala | Thr | Ile | Val | Ile | Ala | Cys | Tyr | Phe | Tyr | Glu | | |
| | 435 | | | | | 440 | | | | | | 445 | | | | | |
| Gln | Ala | Phe | Arg | Glu | His | Trp | Glu | Arg | Ser | Trp | Val | Ser | Gln | His | Cys | | |
| | 450 | | | | | 455 | | | | | 460 | | | | | | |
| Lys | Ser | Leu | Ala | Ile | Pro | Cys | Pro | Ala | His | Tyr | Thr | Pro | Arg | Thr | Ser | | |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 | | |
| Pro | Asp | Phe | Thr | Val | Tyr | Met | Ile | Lys | Tyr | Leu | Met | Thr | Leu | Ile | Val | | |
| | | | 485 | | | | | | 490 | | | | | 495 | | | |
| Gly | Ile | Thr | Ser | Gly | Phe | Trp | Ile | Trp | Ser | Gly | Lys | Thr | Leu | His | Ser | | |
| | | 500 | | | | | 505 | | | | | | 510 | | | | |
| Trp | Arg | Lys | Phe | Tyr | Thr | Arg | Leu | Thr | Asn | Ser | Arg | His | Gly | Glu | Thr | | |
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Thr

<210> 42
 <211> 536
 <212> PRT
 <213> Drosophila

<400> 42

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| Ile | Leu | Pro | Thr | Leu | Ile | Gln | Gly | Val | Gln | Arg | Tyr | Asp | Gln | Ser | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Asp | Ala | Ser | Pro | Tyr | Tyr | Arg | Ser | Gly | Gly | Gly | Leu | Met | Ala | Ser |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Gly | Thr | Glu | Leu | Asp | Gly | Leu | Pro | His | His | Asn | Arg | Cys | Glu | Pro |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ile | Thr | Ile | Ser | Ile | Cys | Lys | Asn | Ile | Pro | Tyr | Asn | Met | Thr | Ile | Met |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Pro | Asn | Leu | Ile | Gly | His | Thr | Lys | Gln | Glu | Glu | Ala | Gly | Leu | Glu | Val |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| His | Gln | Phe | Ala | Pro | Leu | Val | Lys | Ile | Gly | Cys | Ser | Asp | Asp | Leu | Gln |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Leu | Phe | Leu | Cys | Ser | Leu | Tyr | Val | Pro | Val | Cys | Thr | Ile | Leu | Glu | Arg |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Pro | Ile | Pro | Pro | Cys | Arg | Ser | Leu | Cys | Glu | Ser | Ala | Arg | Val | Cys | Glu |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Lys | Leu | Met | Lys | Thr | Tyr | Asn | Phe | Asn | Trp | Pro | Glu | Asn | Leu | Glu | Cys |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Ser | Lys | Phe | Pro | Val | His | Gly | Gly | Glu | Asp | Leu | Cys | Val | Ala | Glu | Asn |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Thr | Thr | Ser | Ser | Ala | Ser | Thr | Ala | Ala | Thr | Pro | Thr | Arg | Ser | Val | Ala |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Val | Gly | Gly | Lys | Asp | Leu | His | Asp | Cys | Gly | Ala | Pro | Cys | His | Ala | Met |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Phe | Phe | Pro | Glu | Arg | Glu | Arg | Thr | Val | Leu | Arg | Tyr | Trp | Val | Gly | Ser |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Trp | Ala | Ala | Val | Cys | Val | Ala | Ser | Cys | Leu | Phe | Thr | Val | Leu | Thr | Phe |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Leu | Ile | Asp | Ser | Ser | Arg | Phe | Arg | Tyr | Pro | Glu | Arg | Ala | Ile | Val | Phe |
| 225 | | | | | 230 | | | | | 235 | | | | 240 | |
| Leu | Ala | Val | Cys | Tyr | Leu | Val | Val | Gly | Cys | Ala | Tyr | Val | Ala | Gly | Leu |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Gly | Ala | Gly | Asp | Ser | Val | Ser | Cys | Arg | Glu | Pro | Phe | Pro | Pro | Pro | Val |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Lys | Leu | Gly | Arg | Leu | Gln | Met | Met | Ser | Thr | Ile | Thr | Gln | Gly | His | Arg |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Gln | Thr | Thr | Ser | Cys | Thr | Val | Leu | Phe | Met | Ala | Leu | Tyr | Phe | Cys | Cys |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Met | Ala | Ala | Phe | Ala | Trp | Trp | Ser | Cys | Leu | Ala | Phe | Ala | Trp | Phe | Leu |
| 305 | | | | | 310 | | | | | 315 | | | | 320 | |
| Ala | Ala | Gly | Leu | Lys | Trp | Gly | His | Glu | Ala | Ile | Glu | Asn | Lys | Ser | His |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Leu | Phe | His | Leu | Val | Ala | Trp | Ala | Val | Pro | Ala | Leu | Gln | Thr | Ile | Ser |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Val | Leu | Ala | Leu | Ala | Lys | Val | Glu | Gly | Asp | Ile | Leu | Ser | Gly | Val | Cys |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Phe | Val | Gly | Gln | Leu | Asp | Thr | His | Ser | Leu | Gly | Ala | Phe | Leu | Ile | Leu |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Pro | Leu | Cys | Ile | Tyr | Leu | Ser | Ile | Gly | Ala | Leu | Phe | Leu | Leu | Ala | Gly |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |


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Trp Ser Gly Leu Cys Phe Cys Ser Thr Leu Met Thr Leu Thr Thr Phe
      260                      265                      270
Ile Ile Asp Thr Glu Arg Phe Lys Tyr Pro Glu Arg Pro Ile Val Phe
      275                      280                      285
Leu Ser Ala Cys Tyr Phe Met Val Ala Val Gly Tyr Leu Ser Arg Asn
      290                      295                      300
Phe Leu Gln Asn Glu Glu Ile Ala Cys Asp Gly Leu Leu Leu Arg Glu
305                      310                      315                      320
Ser Ser Thr Gly Pro His Ser Cys Thr Leu Val Phe Leu Leu Thr Tyr
      325                      330                      335
Phe Phe Gly Met Ala Ser Ser Ile Trp Trp Val Ile Leu Thr Phe Thr
      340                      345                      350
Trp Phe Leu Ala Ala Gly Leu Lys Trp Gly Asn Glu Ala Ile Thr Lys
      355                      360                      365
His Ser Gln Tyr Phe His Leu Ala Ala Trp Leu Ile Pro Thr Val Gln
      370                      375                      380
Ser Val Ala Val Leu Leu Leu Ser Ala Val Asp Gly Asp Pro Ile Leu
385                      390                      395                      400
Gly Ile Cys Tyr Val Gly Asn Leu Asn Pro Asp His Leu Lys Thr Phe
      405                      410                      415
Val Leu Ala Pro Leu Phe Val Tyr Leu Val Ile Gly Thr Thr Phe Leu
      420                      425                      430
Met Ala Gly Phe Val Ser Leu Phe Arg Ile Arg Ser Val Ile Lys Gln
      435                      440                      445
Gln Gly Gly Val Gly Ala Gly Val Lys Ala Asp Lys Leu Glu Lys Leu
450                      455                      460
Met Ile Arg Ile Gly Ile Phe Ser Val Leu Tyr Thr Val Pro Ala Thr
465                      470                      475                      480
Ile Val Ile Gly Cys Tyr Leu Tyr Glu Ala Ala Tyr Phe Glu Asp Trp
      485                      490                      495
Ile Lys Ala Leu Ala Cys Pro Cys Ala Gln Val Lys Gly Pro Gly Lys
      500                      505                      510
Lys Pro Leu Tyr Ser Val Leu Met Leu Lys Tyr Phe Met Ala Leu Ala
      515                      520                      525
Val Gly Ile Thr Ser Gly Val Trp Ile Trp Ser Gly Lys Thr Leu Glu
530                      535                      540
Ser Trp Arg Arg Phe Trp Arg Arg Leu Leu Gly Ala Pro Asp Arg Thr
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Gly Ala Asn Gln Ala Leu Ile Lys Gln Arg
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<210> 44

<211> 647

<212> PRT

<213> Homo sapiens

<400> 44

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      20                      25                      30
Glu Gly Ser Gly Asp Ala Gly Gly Arg Arg Arg Pro Pro Val Asp Pro
      35                      40                      45
Arg Arg Leu Ala Arg Gln Leu Leu Leu Leu Leu Trp Leu Leu Glu Ala
      50                      55                      60
Pro Leu Leu Leu Gly Val Arg Ala Gln Ala Ala Gly Gln Gly Pro Gly
65                      70                      75                      80

```

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----------|-----|-----|-----|-----|-----------|-----|-----|-----|-----|-----|-----|
| Gln | Gly | Pro | Gly | Pro 85 | Gly | Gln | Gln | Pro | Pro 90 | Pro | Pro | Pro | Gln | Gln | Gln |
| Gln | Ser | Gly | Gln | Gln | Tyr | Asn | Gly | Glu | Arg | Gly | Ile | Ser | Val | Pro | Asp |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| His | Gly | Tyr | Cys | Gln | Pro | Ile | Ser | Ile | Pro | Leu | Cys | Thr | Asp | Ile | Ala |
| | | | 115 | | | | | 120 | | | | | 125 | | |
| Tyr | Asn | Gln | Thr | Ile | Met | Pro | Asn | Leu | Leu | Gly | His | Thr | Asn | Gln | Glu |
| | | | 130 | | | | 135 | | | | | 140 | | | |
| Asp | Ala | Gly | Leu | Glu | Val | His | Gln | Phe | Tyr | Pro | Leu | Val | Lys | Val | Gln |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Cys | Ser | Ala | Glu | Leu | Lys | Phe | Phe | Leu | Cys | Ser | Met | Tyr | Ala | Pro | Val |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Cys | Thr | Val | Leu | Glu | Gln | Ala | Leu | Pro | Pro | Cys | Arg | Ser | Leu | Cys | Glu |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Arg | Ala | Arg | Gln | Gly | Cys | Glu | Ala | Leu | Met | Asn | Lys | Phe | Gly | Phe | Gln |
| | | | 195 | | | | 200 | | | | | 205 | | | |
| Trp | Pro | Asp | Thr | Leu | Lys | Cys | Glu | Lys | Phe | Pro | Val | His | Gly | Ala | Gly |
| | | | 210 | | | 215 | | | | | 220 | | | | |
| Glu | Leu | Cys | Val | Gly | Gln | Asn | Thr | Ser | Asp | Lys | Gly | Thr | Pro | Thr | Pro |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Ser | Leu | Leu | Pro | Glu | Phe | Trp | Thr | Ser | Asn | Pro | Gln | His | Gly | Gly | Gly |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Gly | His | Arg | Gly | Gly | Phe | Pro | Gly | Gly | Ala | Gly | Ala | Ser | Glu | Arg | Gly |
| | | | 260 | | | | | 265 | | | | 270 | | | |
| Lys | Phe | Ser | Cys | Pro | Arg | Ala | Leu | Lys | Val | Pro | Ser | Tyr | Leu | Asn | Tyr |
| | | | 275 | | | | 280 | | | | | 285 | | | |
| His | Phe | Leu | Gly | Glu | Lys | Asp | Cys | Gly | Ala | Pro | Cys | Glu | Pro | Thr | Lys |
| | | | | | | 295 | | | | | 300 | | | | |
| Val | Tyr | Gly | Leu | Met | Tyr | Phe | Gly | Pro | Glu | Glu | Leu | Arg | Phe | Ser | Arg |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Thr | Trp | Ile | Gly | Ile | Trp | Ser | Val | Leu | Cys | Cys | Ala | Ser | Thr | Leu | Phe |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Thr | Val | Leu | Thr | Tyr | Leu | Val | Asp | Met | Arg | Arg | Phe | Ser | Tyr | Pro | Glu |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Arg | Pro | Ile | Ile | Phe | Leu | Ser | Gly | Cys | Tyr | Thr | Ala | Val | Ala | Val | Ala |
| | | | 355 | | | | 360 | | | | | 365 | | | |
| Tyr | Ile | Ala | Gly | Phe | Leu | Leu | Glu | Asp | Arg | Val | Val | Cys | Asn | Asp | Lys |
| | | | 370 | | | 375 | | | | | 380 | | | | |
| Phe | Ala | Glu | Asp | Gly | Ala | Arg | Thr | Val | Ala | Gln | Gly | Thr | Lys | Lys | Glu |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |
| Gly | Cys | Thr | Ile | Leu | Phe | Met | Met | Leu | Tyr | Phe | Phe | Ser | Met | Ala | Ser |
| | | | | 405 | | | | | 410 | | | | | 415 | |
| Ser | Ile | Trp | Trp | Val | Ile | Leu | Ser | Leu | Thr | Trp | Phe | Leu | Ala | Ala | Gly |
| | | | 420 | | | | | 425 | | | | | 430 | | |
| Met | Lys | Trp | Gly | His | Glu | Ala | Ile | Glu | Ala | Asn | Ser | Gln | Tyr | Phe | His |
| | | | | | | | | | | | | | | | |

| | | | | |
|---|---|-----|-----|-----|
| 530 | | 535 | | 540 |
| Thr Val Pro Ala Thr | Ile Val Ile Ala Cys Tyr Phe Tyr Glu Gln Ala | | | |
| 545 | | 550 | | 555 |
| Phe Arg Asp Gln Trp | Glu Arg Ser Trp Val Ala Gln Ser Cys Lys Ser | | | 560 |
| | 565 | | 570 | 575 |
| Tyr Ala Ile Pro Cys Pro His Leu Gln Ala Gly Gly Gly Ala Pro Pro | | | | |
| | 580 | | 585 | 590 |
| His Pro Pro Met Ser Pro Asp Phe Thr Val Phe Met Ile Lys Tyr Leu | | | | |
| | 595 | | 600 | 605 |
| Met Thr Leu Ile Val Gly Ile Thr Ser Gly Phe Trp Ile Trp Ser Gly | | | | |
| | 610 | | 615 | 620 |
| Lys Thr Leu Asn Ser Trp Arg Lys Phe Tyr Thr Arg Leu Thr Asn Ser | | | | |
| 625 | | 630 | | 635 |
| Lys Gln Gly Glu Thr Thr Val | | | | 640 |
| | 645 | | | |

<210> 45
 <211> 626
 <212> PRT
 <213> Mouse

<400> 45

| | | | | |
|---|-----|-----|-----|-----|
| Met Ala Glu Glu Ala Ala Pro Ser Glu Ser Arg Ala Ala Gly Arg Leu | | | | |
| 1 | 5 | | 10 | 15 |
| Ser Leu Glu Leu Cys Ala Glu Ala Leu Pro Gly Arg Arg Glu Val | | | | |
| | 20 | | 25 | 30 |
| Gly His Glu Asp Thr Ala Ser His Arg Arg Pro Arg Ala Asp Pro Arg | | | | |
| | 35 | | 40 | 45 |
| Arg Trp Ala Ser Gly Leu Leu Leu Leu Trp Leu Leu Glu Ala Pro | | | | |
| 50 | | 55 | | 60 |
| Leu Leu Leu Gly Val Arg Ala Gln Ala Ala Gly Gln Val Ser Gly Pro | | | | |
| 65 | | 70 | | 75 |
| Gly Gln Gln Ala Pro Pro Pro Pro Gln Pro Gln Gln Ser Gly Gln Gln | | | | |
| | 85 | | 90 | 95 |
| Tyr Asn Gly Glu Arg Gly Ile Ser Ile Pro Asp His Gly Tyr Cys Gln | | | | |
| | 100 | | 105 | 110 |
| Pro Ile Ser Ile Pro Leu Cys Thr Asp Met Ala Tyr Asn Gln Thr Ile | | | | |
| | 115 | | 120 | 125 |
| Met Pro Asn Leu Leu Gly His Thr Asn Gln Glu Asp Ala Gly Leu Glu | | | | |
| 130 | | 135 | | 140 |
| Val His Gln Phe Tyr Pro Leu Val Lys Val Gln Cys Ser Ala Glu Leu | | | | |
| 145 | | 150 | | 155 |
| Lys Phe Phe Leu Cys Ser Met Tyr Ala Pro Val Cys Thr Val Leu Glu | | | | |
| | 165 | | 170 | 175 |
| Gln Ala Leu Pro Pro Cys Arg Ser Leu Cys Glu Arg Ala Arg Gln Gly | | | | |
| | 180 | | 185 | 190 |
| Cys Glu Ala Leu Met Asn Lys Phe Gly Phe Gln Trp Pro Asp Thr Leu | | | | |
| | 195 | | 200 | 205 |
| Lys Cys Glu Lys Phe Pro Val His Gly Ala Gly Glu Leu Cys Val Gly | | | | |
| | 210 | | 215 | 220 |
| Gln Asn Thr Ser Asp Lys Gly Thr Pro Thr Pro Ser Leu Leu Pro Glu | | | | |
| 225 | | 230 | | 235 |
| Phe Trp Thr Ser Asn Gly Gln His Gly Gly Gly Gly Tyr Arg Gly Gly | | | | |
| | 245 | | 250 | 255 |
| Tyr Pro Gly Gly Ala Gly Thr Val Glu Arg Gly Lys Phe Ser Cys Pro | | | | |
| | 260 | | 265 | 270 |
| Arg Ala Leu Arg Val Pro Ser Tyr Leu Asn Tyr His Phe Leu Gly Glu | | | | |

| | | |
|---|-----|-----|
| 275 | 280 | 285 |
| Lys Asp Cys Gly Ala Pro Cys Glu Pro Thr Lys Val Tyr Gly Leu Met | | |
| 290 | 295 | 300 |
| Tyr Phe Gly Pro Glu Glu Leu Arg Phe Ser Arg Thr Trp Ile Gly Ile | | |
| 305 | 310 | 315 |
| Trp Ser Val Leu Cys Cys Ala Ser Thr Leu Phe Thr Val Leu Thr Tyr | | |
| | 325 | 330 |
| Leu Val Asp Met Pro Arg Phe Ser Tyr Pro Glu Arg Pro Ile Ile Ser | | |
| | 340 | 345 |
| Leu Ser Gly Cys Tyr Thr Ala Val Ala Val Ala Tyr Ile Ala Gly Phe | | |
| | 355 | 360 |
| Leu Leu Glu Asp Arg Val Val Cys Asn Asp Lys Phe Ala Glu Asp Gly | | |
| | 370 | 375 |
| Ala Arg Thr Val Ala Gln Gly Thr Asn Lys Glu Gly Cys Thr Ile Leu | | |
| 385 | 390 | 395 |
| Phe Met Met Leu Tyr Phe Phe Ser Met Ala Ser Ser Ile Trp Trp Val | | |
| | 405 | 410 |
| Ile Leu Ser Leu Thr Trp Phe Leu Ala Ala Gly Met Lys Trp Gly His | | |
| | 420 | 425 |
| Glu Ala Ile Glu Ala Asn Ser Gln Tyr Phe His Leu Ala Ala Trp Ala | | |
| | 435 | 440 |
| Val Pro Ala Ile Lys Thr Ile Thr Ile Leu Ala Leu Gly Gln Val Asp | | |
| | 450 | 455 |
| Gly Asp Val Leu Ser Gly Val Cys Phe Leu Gly Leu Asn Asn Val Asp | | |
| 465 | 470 | 475 |
| Ala Leu Arg Gly Phe Val Leu Ala Pro Leu Phe Val Tyr Leu Phe Ile | | |
| | 485 | 490 |
| Gly Thr Ser Phe Leu Leu Ala Gly Phe Val Ser Leu Phe Arg Ile Arg | | |
| | 500 | 505 |
| Thr Ile Met Lys His Asp Gly Thr Lys Thr Glu Lys Leu Glu Lys Leu | | |
| | 515 | 520 |
| Met Val Arg Ile Gly Val Phe Ser Val Leu Tyr Thr Val Pro Ala Thr | | |
| | 530 | 535 |
| Ile Val Ile Ala Cys Tyr Phe Tyr Glu Gln Ala Phe Arg Asp Gln Trp | | |
| 545 | 550 | 555 |
| Glu Arg Ser Trp Val Ala Gln Ser Cys Lys Ser Tyr Ala Ile Pro Cys | | |
| | 565 | 570 |
| Pro His Leu Gln Gly Gly Gly Gly Val Pro Pro His Pro Pro Met Ser | | |
| | 580 | 585 |
| Pro Asp Phe Thr Val Phe Met Ile Lys Tyr Leu Met Thr Leu Asn Ser | | |
| | 595 | 600 |
| Trp Arg Lys Phe Tyr Thr Arg Leu Thr Asn Ser Lys Gln Gly Glu Thr | | |
| | 610 | 615 |
| Thr Val | | 620 |
| 625 | | |

<210> 46

<211> 565

<212> PRT

<213> Homo sapiens

<400> 46

| |
|---|
| Met Arg Pro Arg Ser Ala Leu Pro Arg Leu Leu Leu Pro Leu Leu Leu |
| 1 5 10 15 |
| Leu Pro Ala Ala Gly Pro Ala Gln Phe His Gly Glu Lys Gly Ile Ser |
| 20 25 30 |
| Ile Pro Asp His Gly Phe Cys Gln Pro Ile Ser Ile Pro Leu Cys Thr |

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Asp | Ile | Ala | Tyr | Asn | Gln | Thr | Ile | Met | Pro | Asn | Leu | Leu | Gly | His | Thr | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Asn | Gln | Glu | Asp | Ala | Gly | Leu | Glu | Val | His | Gln | Phe | Tyr | Pro | Leu | Val | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | |
| Lys | Val | Gln | Cys | Ser | Pro | Glu | Leu | Arg | Phe | Phe | Leu | Cys | Ser | Met | Tyr | |
| | | | | 85 | | | | | 90 | | | | | 95 | | |
| Ala | Pro | Val | Cys | Thr | Val | Leu | Glu | Gln | Ala | Ile | Pro | Pro | Cys | Arg | Ser | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Ile | Cys | Glu | Arg | Ala | Arg | Gln | Gly | Cys | Glu | Ala | Leu | Met | Asn | Lys | Phe | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Gly | Phe | Gln | Trp | Pro | Glu | Arg | Leu | Arg | Cys | Glu | His | Phe | Pro | Arg | His | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| Gly | Ala | Glu | Gln | Ile | Cys | Val | Gly | Gln | Asn | His | Ser | Glu | Asp | Gly | Ala | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Pro | Ala | Leu | Leu | Thr | Thr | Ala | Pro | Pro | Pro | Gly | Leu | Gln | Pro | Gly | Ala | |
| | | | | 165 | | | | | 170 | | | | | 175 | | |
| Gly | Gly | Thr | Pro | Gly | Gly | Pro | Gly | Gly | Gly | Gly | Ala | Pro | Pro | Arg | Tyr | |
| | | | 180 | | | | | 185 | | | | | 190 | | | |
| Ala | Thr | Leu | Glu | His | Pro | Phe | His | Cys | Pro | Arg | Val | Leu | Lys | Val | Pro | |
| | | 195 | | | | | 200 | | | | | 205 | | | | |
| Ser | Tyr | Leu | Ser | Tyr | Lys | Phe | Leu | Gly | Glu | Arg | Asp | Cys | Ala | Ala | Pro | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| Cys | Glu | Pro | Ala | Arg | Pro | Asp | Gly | Ser | Met | Phe | Phe | Ser | Gln | Glu | Glu | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
| Thr | Arg | Phe | Ala | Arg | Leu | Trp | Ile | Leu | Thr | Trp | Ser | Val | Leu | Cys | Cys | |
| | | | | 245 | | | | | 250 | | | | | 255 | | |
| Ala | Ser | Thr | Phe | Thr | Val | Thr | Thr | Tyr | Leu | Val | Asp | Met | Gln | Arg | | |
| | | | 260 | | | | 265 | | | | | 270 | | | | |
| Phe | Arg | Tyr | Pro | Glu | Arg | Pro | Ile | Ile | Phe | Leu | Ser | Gly | Cys | Tyr | Thr | |
| | | 275 | | | | | 280 | | | | | 285 | | | | |
| Met | Val | Ser | Val | Ala | Tyr | Ile | Ala | Gly | Phe | Val | Leu | Gln | Glu | Arg | Val | |
| | 290 | | | | | 295 | | | | | 300 | | | | | |
| Val | Cys | Asn | Glu | Arg | Phe | Ser | Glu | Asp | Gly | Tyr | Arg | Thr | Val | Val | Gln | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| Gly | Thr | Lys | Lys | Glu | Gly | Cys | Thr | Ile | Leu | Phe | Met | Met | Leu | Tyr | Phe | |
| | | | | 325 | | | | | 330 | | | | | 335 | | |
| Phe | Ser | Met | Ala | Ser | Ser | Ile | Trp | Trp | Val | Ile | Leu | Ser | Leu | Thr | Trp | |
| | | | 340 | | | | | 345 | | | | | 350 | | | |
| Phe | Leu | Ala | Ala | Gly | Met | Lys | Trp | Gly | His | Glu | Ala | Ile | Glu | Ala | Asn | |
| | | 355 | | | | | 360 | | | | | 365 | | | | |
| Ser | Gln | Tyr | Phe | His | Leu | Ala | Ala | Trp | Ala | Val | Pro | Ala | Val | Lys | Thr | |
| | 370 | | | | | 375 | | | | | 380 | | | | | |
| Ile | Thr | Ile | Leu | Ala | Met | Gly | Gln | Ile | Asp | Gly | Asp | Leu | Leu | Ser | Gly | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | |

Gln His Cys Lys Ser Leu Ala Ile Pro Cys Pro Ala His Tyr Thr Pro
 500 505 510
 Arg Met Ser Pro Asp Phe Thr Val Tyr Met Ile Lys Tyr Leu Met Thr
 515 520 525
 Leu Ile Val Gly Ile Thr Ser Gly Phe Trp Ile Trp Ser Gly Lys Thr
 530 535 540
 Leu His Ser Trp Arg Lys Phe Tyr Thr Arg Leu Thr Asn Ser Arg His
 545 550 555 560
 Gly Glu Thr Thr Val
 565

<210> 47
 <211> 666
 <212> PRT
 <213> Homo sapiens

<400> 47
 Met Ala Met Thr Trp Ile Val Phe Ser Leu Trp Pro Leu Thr Val Phe
 1 5 10 15
 Met Gly His Ile Gly Gly His Ser Leu Phe Ser Cys Glu Pro Ile Thr
 20 25 30
 Leu Arg Met Cys Gln Asp Leu Pro Tyr Asn Thr Thr Phe Met Pro Asn
 35 40 45
 Leu Leu Asn His Tyr Asp Gln Gln Thr Ala Ala Leu Ala Met Glu Pro
 50 55 60
 Phe His Pro Met Val Asn Leu Asp Cys Ser Arg Asp Phe Arg Pro Phe
 65 70 75 80
 Leu Cys Ala Leu Tyr Ala Pro Ile Cys Met Glu Tyr Gly Arg Val Thr
 85 90 95
 Leu Pro Cys Arg Arg Leu Cys Gln Arg Ala Tyr Ser Glu Cys Ser Lys
 100 105 110
 Leu Met Glu Met Phe Gly Val Pro Trp Pro Glu Asp Met Glu Cys Ser
 115 120 125
 Arg Phe Pro Asp Cys Asp Glu Pro Tyr Pro Arg Leu Val Asp Leu Asn
 130 135 140
 Leu Ala Gly Glu Pro Thr Glu Gly Ala Pro Val Ala Val Gln Arg Asp
 145 150 155 160
 Tyr Gly Phe Trp Cys Pro Arg Glu Leu Lys Ile Asp Pro Asp Leu Gly
 165 170 175
 Tyr Ser Phe Leu His Val Arg Asp Cys Ser Pro Pro Cys Pro Asn Met
 180 185 190
 Tyr Phe Arg Arg Glu Glu Leu Ser Phe Ala Arg Tyr Phe Ile Gly Leu
 195 200 205
 Ile Ser Ile Ile Cys Leu Ser Ala Thr Leu Phe Thr Phe Leu Thr Phe
 210 215 220
 Leu Ile Asp Val Thr Arg Phe Arg Tyr Pro Glu Arg Pro Ile Ile Phe
 225 230 235 240
 Tyr Ala Val Cys Tyr Met Met Val Ser Leu Ile Phe Phe Ile Gly Phe
 245 250 255
 Leu Leu Glu Asp Arg Val Ala Cys Asn Ala Ser Ile Pro Ala Gln Tyr
 260 265 270
 Lys Ala Ser Thr Val Thr Gln Gly Ser His Asn Lys Ala Cys Thr Met
 275 280 285
 Leu Phe Met Ile Leu Tyr Phe Phe Thr Met Ala Gly Ser Val Trp Trp
 290 295 300
 Val Ile Leu Thr Ile Thr Trp Phe Leu Ala Ala Val Pro Lys Trp Gly
 305 310 315 320

Ser Glu Ala Ile Glu Lys Lys Ala Leu Leu Phe His Ala Ser Ala Trp
 325 330 335
 Gly Ile Pro Gly Thr Leu Thr Ile Ile Leu Leu Ala Met Asn Lys Ile
 340 345 350
 Glu Gly Asp Asn Ile Ser Gly Val Cys Phe Val Gly Leu Tyr Asp Val
 355 360 365
 Asp Ala Leu Arg Tyr Phe Val Leu Ala Pro Leu Cys Leu Tyr Val Val
 370 375 380
 Val Gly Val Ser Leu Leu Ala Gly Ile Ile Ser Leu Asn Arg Val
 385 390 395 400
 Arg Ile Glu Ile Pro Leu Glu Lys Glu Asn Gln Asp Lys Leu Val Lys
 405 410 415
 Phe Met Ile Arg Ile Gly Val Phe Ser Ile Leu Tyr Leu Val Pro Leu
 420 425 430
 Leu Val Val Ile Gly Cys Tyr Phe Tyr Glu Gln Ala Tyr Arg Gly Ile
 435 440 445
 Trp Glu Thr Thr Trp Ile Gln Glu Arg Cys Arg Glu Tyr His Ile Pro
 450 455 460
 Cys Pro Tyr Gln Val Thr Gln Met Ser Arg Pro Asp Leu Ile Leu Phe
 465 470 475 480
 Leu Met Lys Tyr Leu Met Ala Leu Ile Val Gly Ile Pro Ser Val Phe
 485 490 495
 Trp Val Gly Ser Lys Lys Thr Cys Phe Glu Trp Ala Ser Phe Phe His
 500 505 510
 Gly Arg Arg Lys Lys Glu Ile Val Asn Glu Ser Arg Gln Val Leu Gln
 515 520 525
 Glu Pro Asp Phe Ala Gln Ser Leu Leu Arg Asp Pro Asn Thr Pro Ile
 530 535 540
 Ile Arg Lys Ser Arg Gly Thr Ser Thr Gln Gly Thr Ser Thr His Ala
 545 550 555 560
 Ser Ser Thr Gln Leu Ala Met Val Asp Asp Gln Arg Ser Lys Ala Gly
 565 570 575
 Ser Ile His Ser Lys Val Ser Ser Tyr His Gly Ser Leu His Arg Ser
 580 585 590
 Arg Asp Gly Arg Tyr Thr Pro Cys Ser Tyr Arg Gly Met Glu Glu Arg
 595 600 605
 Leu Pro His Gly Ser Met Ser Arg Leu Thr Asp His Ser Arg His Ser
 610 615 620
 Ser Ser His Arg Leu Asn Glu Gln Ser Arg His Ser Ser Ile Arg Asp
 625 630 635 640
 Leu Ser Asn Asn Pro Met Thr His Ile Thr His Gly Thr Ser Met Asn
 645 650 655
 Arg Val Ile Glu Glu Asp Gly Thr Ser Ala
 660 665

<210> 48
 <211> 666
 <212> PRT
 <213> Mouse

<400> 48
 Met Ala Val Ser Trp Ile Val Phe Asp Leu Trp Leu Leu Thr Val Phe
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 Leu Gly Gln Ile Gly Gly His Ser Leu Phe Ser Cys Glu Pro Ile Thr
 20 25 30
 Leu Arg Met Cys Gln Asp Leu Pro Tyr Asn Thr Thr Phe Met Pro Asn
 35 40 45

```

Leu Leu Asn His Tyr Asp Gln Gln Thr Ala Ala Leu Ala Met Glu Pro
 50                               55                               60
Phe His Pro Met Val Asn Leu Asp Cys Ser Arg Asp Phe Arg Pro Phe
65                               70                               75                               80
Leu Cys Ala Leu Tyr Ala Pro Ile Cys Met Glu Tyr Gly Arg Val Thr
                               85                               90                               95
Leu Pro Cys Arg Arg Leu Cys Gln Arg Ala Tyr Ser Glu Cys Ser Lys
                               100                              105                              110
Leu Met Glu Met Phe Gly Val Pro Trp Pro Glu Asp Met Glu Cys Ser
                               115                              120                              125
Arg Phe Pro Asp Cys Asp Glu Pro Tyr Pro Arg Leu Val Asp Leu Asn
                               130                              135                              140
Leu Val Gly Asp Pro Thr Glu Gly Ala Pro Val Ala Val Gln Arg Asp
145                               150                              155                              160
Tyr Gly Phe Trp Cys Pro Arg Glu Leu Lys Ile Asp Pro Asp Leu Gly
                               165                              170                              175
Tyr Ser Phe Leu His Val Arg Asp Cys Ser Pro Pro Cys Pro Asn Met
                               180                              185                              190
Tyr Phe Arg Arg Glu Glu Leu Ser Phe Ala Arg Tyr Phe Ile Gly Leu
                               195                              200                              205
Ile Ser Ile Ile Cys Leu Ser Ala Thr Leu Phe Thr Phe Leu Thr Phe
                               210                              215                              220
Leu Ile Asp Val Thr Arg Phe Arg Tyr Pro Glu Arg Pro Ile Ile Phe
225                               230                              235                              240
Tyr Ala Val Cys Tyr Met Met Val Ser Leu Ile Phe Phe Ile Gly Phe
                               245                              250                              255
Leu Leu Glu Asp Arg Val Ala Cys Asn Ala Ser Ser Pro Ala Gln Tyr
                               260                              265                              270
Lys Ala Ser Thr Val Thr Gln Gly Ser His Asn Lys Ala Cys Thr Met
                               275                              280                              285
Leu Phe Met Val Leu Tyr Phe Phe Thr Met Ala Gly Ser Val Trp Trp
                               290                              295                              300
Val Ile Leu Thr Ile Thr Trp Phe Leu Ala Ala Val Pro Lys Trp Gly
305                               310                              315                              320
Ser Glu Ala Ile Glu Lys Lys Ala Leu Leu Phe His Ala Ser Ala Trp
                               325                              330                              335
Gly Ile Pro Gly Thr Leu Thr Ile Ile Leu Leu Ala Met Asn Lys Ile
                               340                              345                              350
Glu Gly Asp Asn Ile Ser Gly Val Cys Phe Val Gly Leu Tyr Asp Val
                               355                              360                              365
Asp Ala Leu Arg Tyr Phe Val Leu Ala Pro Leu Cys Leu Tyr Val Val
                               370                              375                              380
Val Gly Val Ser Leu Leu Ala Gly Ile Ile Ser Leu Asn Arg Val
385                               390                              395                              400
Arg Ile Glu Ile Pro Leu Glu Lys Glu Asn Gln Asp Lys Leu Val Lys
                               405                              410                              415
Phe Met Ile Arg Ile Gly Val Phe Ser Ile Leu Tyr Leu Val Pro Leu
                               420                              425                              430
Leu Val Val Ile Gly Cys Tyr Phe Tyr Glu Gln Ala Tyr Arg Gly Ile
                               435                              440                              445
Trp Glu Thr Thr Trp Ile Gln Glu Arg Cys Arg Glu Tyr His Ile Pro
                               450                              455                              460
Cys Pro Tyr Gln Val Thr Gln Met Ser Arg Pro Asp Leu Ile Leu Phe
465                               470                              475                              480
Leu Met Lys Tyr Leu Met Ala Leu Ile Val Gly Ile Pro Ser Ile Phe
                               485                              490                              495
Trp Val Gly Ser Lys Lys Thr Cys Phe Glu Trp Ala Ser Phe Phe His

```

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| | | | 500 | | | | | 505 | | | | 510 | | | | | |
| Gly | Arg | Arg | Lys | Lys | Glu | Ile | Val | Asn | Glu | Ser | Arg | Gln | Val | Leu | Gln | | |
| | 515 | | | | | | 520 | | | | | 525 | | | | | |
| Glu | Pro | Asp | Phe | Ala | Gln | Ser | Leu | Leu | Arg | Asp | Pro | Asn | Thr | Pro | Ile | | |
| | 530 | | | | | | 535 | | | | | 540 | | | | | |
| Ile | Arg | Lys | Ser | Arg | Gly | Thr | Ser | Thr | Gln | Gly | Thr | Ser | Thr | His | Ala | | |
| 545 | | | | | 550 | | | | | 555 | | | | | 560 | | |
| Ser | Ser | Thr | Gln | Leu | Ala | Met | Val | Asp | Asp | Gln | Arg | Ser | Lys | Ala | Gly | | |
| | | | 565 | | | | | | 570 | | | | | | 575 | | |
| Ser | Val | His | Ser | Lys | Val | Ser | Ser | Tyr | His | Gly | Ser | Leu | His | Arg | Ser | | |
| | | | 580 | | | | | 585 | | | | | 590 | | | | |
| Arg | Asp | Gly | Arg | Tyr | Thr | Pro | Cys | Ser | Tyr | Arg | Gly | Met | Glu | Glu | Arg | | |
| | 595 | | | | | | 600 | | | | | 605 | | | | | |
| Leu | Pro | His | Gly | Ser | Met | Ser | Arg | Leu | Thr | Asp | His | Ser | Arg | His | Ser | | |
| | 610 | | | | | 615 | | | | | 620 | | | | | | |
| Ser | Ser | His | Arg | Leu | Asn | Glu | Gln | Ser | Arg | His | Ser | Ser | Ile | Arg | Asp | | |
| 625 | | | | | 630 | | | | | 635 | | | | | 640 | | |
| Leu | Ser | Asn | Asn | Pro | Met | Thr | His | Ile | Thr | His | Gly | Thr | Ser | Met | Asn | | |
| | | | 645 | | | | | | 650 | | | | | | 655 | | |
| Arg | Val | Ile | Glu | Glu | Asp | Gly | Thr | Ser | Ala | | | | | | | | |
| | | | 660 | | | | | 665 | | | | | | | | | |

<210> 49

<211> 537

<212> PRT

<213> Homo sapiens

<400> 49

| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| Met | Ala | Trp | Arg | Gly | Ala | Gly | Pro | Ser | Val | Pro | Gly | Ala | Pro | Gly | Gly | | |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | | | |
| Val | Gly | Leu | Ser | Leu | Gly | Leu | Leu | Leu | Gln | Leu | Leu | Leu | Leu | Leu | Gly | | |
| | | | 20 | | | | | 25 | | | | | 30 | | | | |
| Pro | Ala | Arg | Gly | Phe | Gly | Asp | Glu | Glu | Glu | Arg | Arg | Cys | Asp | Pro | Ile | | |
| | 35 | | | | | 40 | | | | | | 45 | | | | | |
| Arg | Ile | Ser | Met | Cys | Gln | Asn | Leu | Gly | Tyr | Asn | Val | Thr | Lys | Met | Pro | | |
| | 50 | | | | | 55 | | | | 60 | | | | | | | |
| Asn | Leu | Val | Gly | His | Glu | Leu | Gln | Thr | Asp | Ala | Glu | Leu | Gln | Leu | Thr | | |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 | | |
| Thr | Phe | Thr | Pro | Leu | Ile | Gln | Tyr | Gly | Cys | Ser | Ser | Gln | Leu | Gln | Phe | | |
| | | | 85 | | | | | | 90 | | | | | 95 | | | |
| Phe | Leu | Cys | Ser | Val | Tyr | Val | Pro | Met | Cys | Thr | Glu | Lys | Ile | Asn | Ile | | |
| | | | 100 | | | | | 105 | | | | | 110 | | | | |
| Pro | Ile | Gly | Pro | Cys | Gly | Gly | Met | Cys | Leu | Ser | Val | Lys | Arg | Arg | Cys | | |
| | 115 | | | | | | 120 | | | | | 125 | | | | | |
| Glu | Pro | Val | Leu | Lys | Glu | Phe | Gly | Phe | Ala | Trp | Pro | Glu | Ser | Leu | Asn | | |
| | 130 | | | | | 135 | | | | | 140 | | | | | | |
| Cys | Ser | Lys | Phe | Pro | Pro | Gln | Asn | Asp | His | Asn | His | Met | Cys | Met | Glu | | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | | |
| Gly | Pro | Gly | Asp | Glu | Glu | Val | Pro | Leu | Pro | His | Lys | Thr | Pro | Ile | Gln | | |
| | | | 165 | | | | | | 170 | | | | | 175 | | | |
| Pro | Gly | Glu | Glu | Cys | His | Ser | Val | Gly | Thr | Asn | Ser | Asp | Gln | Tyr | Ile | | |
| | | | 180 | | | | | 185 | | | | | | 190 | | | |
| Trp | Val | Lys | Arg | Ser | Leu | Asn | Cys | Val | Leu | Lys | Cys | Gly | Tyr | Asp | Ala | | |
| | 195 | | | | | 200 | | | | | | 205 | | | | | |
| Gly | Leu | Tyr | Ser | Arg | Ser | Ala | Lys | Glu | Phe | Thr | Asp | Ile | Trp | Met | Ala | | |
| | 210 | | | | | 215 | | | | | 220 | | | | | | |
| Val | Trp | Ala | Ser | Leu | Cys | Phe | Ile | Ser | Thr | Ala | Phe | Thr | Val | Leu | Thr | | |

```

225          230          235          240
Phe Leu Ile Asp Ser Ser Arg Phe Ser Tyr Pro Glu Arg Pro Ile Ile
          245          250          255
Phe Leu Ser Met Cys Tyr Asn Ile Tyr Ser Ile Ala Tyr Ile Val Arg
          260          265          270
Leu Thr Val Gly Arg Glu Arg Ile Ser Cys Asp Phe Glu Glu Ala Ala
          275          280          285
Glu Pro Val Leu Ile Gln Glu Gly Leu Lys Asn Thr Gly Cys Ala Ile
          290          295          300
Ile Phe Leu Leu Met Tyr Phe Phe Gly Met Ala Ser Ser Ile Trp Trp
305          310          315          320
Val Ile Leu Thr Leu Thr Trp Phe Leu Ala Ala Gly Leu Lys Trp Gly
          325          330          335
His Glu Ala Ile Glu Met His Ser Ser Tyr Phe His Ile Ala Ala Trp
          340          345          350
Ala Ile Pro Ala Val Lys Thr Ile Val Ile Leu Ile Met Arg Leu Val
          355          360          365
Asp Ala Asp Glu Leu Thr Gly Leu Cys Tyr Val Gly Asn Gln Asn Leu
          370          375          380
Asp Ala Leu Thr Gly Phe Val Val Ala Pro Leu Phe Thr Tyr Leu Val
385          390          395          400
Ile Gly Thr Leu Phe Ile Ala Ala Gly Leu Val Ala Leu Phe Lys Ile
          405          410          415
Arg Ser Asn Leu Gln Lys Asp Gly Thr Lys Thr Asp Lys Leu Glu Arg
          420          425          430
Leu Met Val Lys Ile Gly Val Phe Ser Val Leu Tyr Thr Val Pro Ala
          435          440          445
Thr Cys Val Ile Ala Cys Tyr Phe Tyr Glu Ile Ser Asn Trp Ala Leu
          450          455          460
Phe Arg Tyr Ser Ala Asp Asp Ser Asn Met Ala Val Glu Met Leu Lys
465          470          475          480
Ile Phe Met Ser Leu Leu Val Gly Ile Thr Ser Gly Met Trp Ile Trp
          485          490          495
Ser Ala Lys Thr Leu His Thr Trp Gln Lys Cys Ser Asn Arg Leu Val
          500          505          510
Asn Ser Gly Lys Val Lys Arg Glu Lys Arg Gly Asn Gly Trp Val Lys
          515          520          525
Pro Gly Lys Gly Ser Glu Thr Val Val
          530          535

```

<210> 50
<211> 537
<212> PRT
<213> Mouse

```

<400> 50
Met Ala Trp Pro Gly Thr Gly Pro Ser Ser Arg Gly Ala Pro Gly Gly
 1          5          10          15
Val Gly Leu Arg Leu Gly Leu Leu Leu Gln Phe Leu Leu Leu Leu Arg
          20          25          30
Pro Thr Leu Gly Phe Gly Asp Glu Glu Glu Arg Arg Cys Asp Pro Ile
          35          40          45
Arg Ile Ala Met Cys Gln Asn Leu Gly Tyr Asn Val Thr Lys Met Pro
          50          55          60
Asn Leu Val Gly His Glu Leu Gln Thr Asp Ala Glu Leu Gln Leu Thr
65          70          75          80
Thr Phe Thr Pro Leu Ile Gln Tyr Gly Cys Ser Ser Gln Leu Gln Phe

```

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | | 85 | | | | | 90 | | | | 95 | | | |
| Phe | Leu | Cys | Ser | Val | Tyr | Val | Pro | Met | Cys | Thr | Glu | Lys | Ile | Asn | Ile | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Pro | Ile | Gly | Pro | Cys | Gly | Gly | Met | Cys | Leu | Ser | Val | Lys | Arg | Arg | Cys | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Glu | Pro | Val | Leu | Arg | Glu | Phe | Gly | Phe | Ala | Trp | Pro | Asp | Thr | Leu | Asn | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| Cys | Ser | Lys | Phe | Pro | Pro | Gln | Asn | Asp | His | Asn | His | Met | Cys | Met | Glu | |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 | |
| Gly | Pro | Gly | Asp | Glu | Glu | Val | Pro | Leu | Pro | His | Lys | Thr | Pro | Ile | Gln | |
| | | | 165 | | | | | | 170 | | | | | 175 | | |
| Pro | Gly | Glu | Glu | Cys | His | Ser | Val | Gly | Ser | Asn | Ser | Asp | Gln | Tyr | Ile | |
| | | | 180 | | | | | 185 | | | | | 190 | | | |
| Trp | Val | Lys | Arg | Ser | Leu | Asn | Cys | Val | Leu | Lys | Cys | Gly | Tyr | Asp | Ala | |
| | | 195 | | | | | 200 | | | | | 205 | | | | |
| Gly | Leu | Tyr | Ser | Arg | Ser | Ala | Lys | Glu | Phe | Thr | Asp | Ile | Trp | Met | Ala | |
| | 210 | | | | | 215 | | | | | 220 | | | | | |
| Val | Trp | Ala | Ser | Leu | Cys | Phe | Ile | Ser | Thr | Thr | Phe | Thr | Val | Leu | Thr | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
| Phe | Leu | Ile | Asp | Ser | Ser | Arg | Phe | Ser | Tyr | Pro | Glu | Arg | Pro | Ile | Ile | |
| | | | 245 | | | | | | 250 | | | | | 255 | | |
| Phe | Leu | Ser | Met | Cys | Tyr | Asn | Ile | Tyr | Ser | Ile | Ala | Tyr | Ile | Val | Arg | |
| | | 260 | | | | | | 265 | | | | | 270 | | | |
| Leu | Thr | Val | Gly | Arg | Glu | Arg | Ile | Ser | Cys | Asp | Phe | Glu | Glu | Ala | Ala | |
| | | 275 | | | | | 280 | | | | | 285 | | | | |
| Glu | Pro | Val | Leu | Ile | Gln | Glu | Gly | Leu | Lys | Asn | Thr | Gly | Cys | Ala | Ile | |
| | 290 | | | | | 295 | | | | | 300 | | | | | |
| Ile | Phe | Leu | Leu | Met | Tyr | Phe | Phe | Gly | Met | Ala | Ser | Ser | Ile | Trp | Trp | |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 | |
| Val | Ile | Leu | Thr | Leu | Thr | Trp | Phe | Leu | Ala | Ala | Gly | Leu | Lys | Trp | Gly | |
| | | | | 325 | | | | | 330 | | | | | 335 | | |
| His | Glu | Ala | Ile | Glu | Met | His | Ser | Ser | Tyr | Phe | His | Ile | Ala | Ala | Trp | |
| | | 340 | | | | | | 345 | | | | | 350 | | | |
| Ala | Ile | Pro | Ala | Val | Lys | Thr | Ile | Val | Ile | Leu | Ile | Met | Arg | Leu | Val | |
| | | 355 | | | | | 360 | | | | | 365 | | | | |
| Asp | Ala | Asp | Glu | Leu | Thr | Gly | Leu | Cys | Tyr | Val | Gly | Asn | Gln | Asn | Leu | |
| | 370 | | | | | 375 | | | | | 380 | | | | | |
| Asp | Ala | Leu | Thr | Gly | Phe | Val | Val | Ala | Pro | Leu | Phe | Thr | Tyr | Leu | Val | |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 | |
| Ile | Gly | Thr | Leu | Phe | Ile | Ala | Ala | Gly | Leu | Val | Ala | Leu | Phe | Lys | Ile | |
| | | | | 405 | | | | | 410 | | | | | 415 | | |
| Arg | Ser | Asn | Leu | Gln | Lys | Asp | Gly | Thr | Lys | Thr | Asp | Lys | Leu | Glu | Arg | |
| | | 420 | | | | | | 425 | | | | | 430 | | | |
| Leu | Met | Val | Lys | Ile | Gly | Val | Phe | Ser | Val | Leu | Tyr | Thr | Val | Pro | Ala | |
| | | 435 | | | | | 440 | | | | | 445 | | | | |
| Thr | Cys | Val | Ile | Ala | Cys | Tyr | Phe | Tyr | Glu | Ile | Ser | Asn | Trp | Ala | Leu | |
| | 450 | | | | | 455 | | | | | 460 | | | | | |
| Phe | Arg | Tyr | Ser | Ala | Asp | Asp | Ser | Asn | Met | Ala | Val | Glu | Met | Leu | Lys | |
| 465 | | | | | 470 | | | | | 475 | | | | | 480 | |
| Ile | Phe | Met | Ser | Leu | Leu | Val | Gly | Ile | Thr | Ser | Gly | Met | Trp | Ile | Trp | |
| | | | | 485 | | | | | 490 | | | | | 495 | | |
| Ser | Ala | Lys | Thr | Leu | His | Thr | Trp | Gln | Lys | Cys | Ser | Asn | Arg | Leu | Val | |
| | | 500 | | | | | | 505 | | | | | 510 | | | |
| Asn | Ser | Gly | Lys | Val | Lys | Arg | Glu | Lys | Arg | Gly | Asn | Gly | Trp | Val | Lys | |
| | | 515 | | | | | 520 | | | | | 525 | | | | |
| Pro | Gly | Lys | Gly | Asn | Glu | Thr | Val | Val | | | | | | | | |
| | 530 | | | | | 535 | | | | | | | | | | |

<210> 51
 <211> 585
 <212> PRT
 <213> Homo sapiens

<400> 51

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Arg | Pro | Asp | Pro | Ser | Ala | Pro | Pro | Ser | Leu | Leu | Leu | Leu | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Leu | Ala | Gln | Leu | Val | Gly | Arg | Ala | Ala | Ala | Ala | Ser | Lys | Ala | Pro | Val |
| | | | 20 | | | | | 25 | | | | 30 | | | |
| Cys | Gln | Glu | Ile | Thr | Val | Pro | Met | Cys | Arg | Gly | Ile | Gly | Tyr | Asn | Leu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Thr | His | Met | Pro | Asn | Gln | Phe | Asn | His | Asp | Thr | Gln | Asp | Glu | Ala | Gly |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Leu | Glu | Val | His | Gln | Phe | Trp | Pro | Leu | Val | Glu | Ile | Gln | Cys | Ser | Pro |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Asp | Leu | Arg | Phe | Phe | Leu | Cys | Thr | Met | Tyr | Thr | Pro | Ile | Cys | Leu | Pro |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Asp | Tyr | His | Lys | Pro | Leu | Pro | Pro | Cys | Arg | Ser | Val | Cys | Glu | Arg | Ala |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Lys | Ala | Gly | Cys | Ser | Pro | Leu | Met | Arg | Gln | Tyr | Gly | Phe | Ala | Trp | Pro |
| | 115 | | | | | | 120 | | | | | 125 | | | |
| Glu | Arg | Met | Ser | Cys | Asp | Arg | Leu | Pro | Val | Leu | Gly | Arg | Asp | Ala | Glu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Val | Leu | Cys | Met | Asp | Tyr | Asn | Arg | Ser | Glu | Ala | Thr | Thr | Ala | Pro | Pro |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Arg | Pro | Phe | Pro | Ala | Lys | Pro | Thr | Leu | Pro | Gly | Pro | Pro | Gly | Ala | Pro |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Ala | Ser | Gly | Gly | Glu | Cys | Pro | Ala | Gly | Gly | Pro | Phe | Val | Cys | Lys | Cys |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Arg | Glu | Pro | Phe | Val | Pro | Ile | Leu | Lys | Glu | Ser | His | Pro | Leu | Tyr | Asn |
| | 195 | | | | | | 200 | | | | | 205 | | | |
| Lys | Val | Arg | Thr | Gly | Gln | Val | Pro | Asn | Cys | Ala | Val | Pro | Cys | Tyr | Gln |
| | 210 | | | | | 215 | | | | | | 220 | | | |
| Pro | Ser | Phe | Ser | Ala | Asp | Glu | Arg | Thr | Phe | Ala | Thr | Phe | Trp | Ile | Gly |
| 225 | | | | | 230 | | | | | 235 | | | | 240 | |
| Leu | Trp | Ser | Val | Leu | Cys | Phe | Ile | Ser | Thr | Ser | Thr | Thr | Val | Ala | Thr |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Phe | Leu | Ile | Asp | Met | Asp | Thr | Phe | Arg | Tyr | Pro | Glu | Arg | Pro | Ile | Ile |
| | | 260 | | | | | | 265 | | | | | 270 | | |
| Phe | Leu | Ser | Ala | Cys | Tyr | Leu | Cys | Val | Ser | Leu | Gly | Phe | Leu | Val | Arg |
| | 275 | | | | | | 280 | | | | | 285 | | | |
| Leu | Val | Val | Gly | His | Ala | Ser | Val | Ala | Cys | Ser | Arg | Glu | His | Asn | His |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Ile | His | Tyr | Glu | Thr | Thr | Gly | Pro | Ala | Leu | Cys | Thr | Ile | Val | Phe | Leu |
| 305 | | | | | 310 | | | | | 315 | | | | 320 | |
| Leu | Val | Tyr | Phe | Phe | Gly | Met | Ala | Ser | Ser | Ile | Trp | Trp | Val | Ile | Leu |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Ser | Leu | Thr | Trp | Phe | Leu | Ala | Ala | Ala | Met | Lys | Trp | Gly | Asn | Glu | Ala |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Ile | Ala | Gly | Tyr | Gly | Gln | Tyr | Phe | His | Leu | Ala | Ala | Trp | Leu | Ile | Pro |
| | 355 | | | | | | 360 | | | | | 365 | | | |
| Ser | Val | Lys | Ser | Ile | Thr | Ala | Leu | Ala | Leu | Ser | Ser | Val | Asp | Gly | Asp |
| | 370 | | | | | 375 | | | | | 380 | | | | |
| Pro | Val | Ala | Gly | Ile | Cys | Tyr | Val | Gly | Asn | Gln | Asn | Leu | Asn | Ser | Leu |
| 385 | | | | | 390 | | | | | 395 | | | | | 400 |

```

Arg Arg Phe Val Leu Gly Pro Leu Val Leu Tyr Leu Leu Val Gly Thr
      405                      410                      415
Leu Phe Leu Leu Ala Gly Phe Val Ser Leu Phe Arg Ile Arg Ser Val
      420                      425                      430
Ile Lys Gln Gly Gly Thr Lys Thr Asp Lys Leu Glu Lys Leu Met Ile
      435                      440                      445
Arg Ile Gly Ile Phe Thr Leu Leu Tyr Thr Val Pro Ala Ser Ile Val
      450                      455                      460
Val Ala Cys Tyr Leu Tyr Glu Gln His Tyr Arg Glu Ser Trp Glu Ala
465                      470                      475                      480
Ala Leu Thr Cys Ala Cys Pro Gly His Asp Thr Gly Gln Pro Arg Ala
      485                      490                      495
Lys Pro Glu Tyr Trp Val Leu Met Leu Lys Tyr Phe Met Cys Leu Val
      500                      505                      510
Val Gly Ile Thr Ser Gly Val Trp Ile Trp Ser Gly Lys Thr Val Glu
      515                      520                      525
Ser Trp Arg Arg Phe Thr Ser Arg Cys Cys Cys Arg Pro Arg Arg Gly
      530                      535                      540
His Lys Ser Gly Gly Ala Met Ala Ala Gly Asp Tyr Pro Glu Ala Ser
545                      550                      555                      560
Ala Ala Leu Thr Gly Arg Thr Gly Pro Pro Gly Pro Ala Ala Thr Tyr
      565                      570                      575
His Lys Gln Val Ser Leu Ser His Val
      580                      585

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<210> 52

<211> 706

<212> PRT

<213> Homo sapiens

<400> 52

```

Met Glu Met Phe Thr Phe Leu Leu Thr Cys Ile Phe Leu Pro Leu Leu
 1                      5                      10                      15
Arg Gly His Ser Leu Phe Thr Cys Glu Pro Ile Thr Val Pro Arg Cys
      20                      25                      30
Met Lys Met Ala Tyr Asn Met Thr Phe Phe Pro Asn Leu Met Gly His
      35                      40                      45
Tyr Asp Gln Ser Ile Ala Ala Val Glu Met Glu His Phe Leu Pro Leu
      50                      55                      60
Ala Asn Leu Glu Cys Ser Pro Asn Ile Glu Thr Phe Leu Cys Lys Ala
65                      70                      75                      80
Phe Val Pro Thr Cys Ile Glu Gln Ile His Val Val Pro Pro Cys Arg
      85                      90                      95
Lys Leu Cys Glu Lys Val Tyr Ser Asp Cys Lys Lys Leu Ile Asp Thr
      100                     105                     110
Phe Gly Ile Arg Trp Pro Glu Glu Leu Glu Cys Asp Arg Leu Gln Tyr
      115                     120                     125
Cys Asp Glu Thr Val Pro Val Thr Phe Asp Pro His Thr Glu Phe Leu
      130                     135                     140
Gly Pro Gln Lys Lys Thr Glu Gln Val Gln Arg Asp Ile Gly Phe Trp
145                     150                     155                     160
Cys Pro Arg His Leu Lys Thr Ser Gly Gly Gln Gly Tyr Lys Phe Leu
      165                     170                     175
Gly Ile Asp Gln Cys Ala Pro Pro Cys Pro Asn Met Tyr Phe Lys Ser
      180                     185                     190
Asp Glu Leu Glu Phe Ala Lys Ser Phe Ile Gly Thr Val Ser Ile Phe
      195                     200                     205

```


Cys Leu Cys Ala Thr Leu Phe Thr Phe Leu Thr Phe Leu Ile Asp Val
 210 215 220
 Arg Arg Phe Arg Tyr Pro Glu Arg Pro Ile Ile Tyr Tyr Ser Val Cys
 225 230 235 240
 Tyr Ser Ile Val Ser Leu Met Tyr Phe Ile Gly Phe Leu Leu Gly Asp
 245 250 255
 Ser Thr Ala Cys Asn Lys Ala Asp Glu Lys Leu Glu Leu Gly Asp Thr
 260 265 270
 Val Val Leu Gly Ser Gln Asn Lys Ala Cys Thr Val Leu Phe Met Leu
 275 280 285
 Leu Tyr Phe Phe Thr Met Ala Gly Thr Val Trp Trp Val Ile Leu Thr
 290 295 300
 Ile Thr Trp Phe Leu Ala Ala Gly Arg Lys Trp Ser Cys Glu Ala Ile
 305 310 315 320
 Glu Gln Lys Ala Val Trp Phe His Ala Val Ala Trp Gly Thr Pro Gly
 325 330 335
 Phe Leu Thr Val Met Leu Leu Ala Met Asn Lys Val Glu Gly Asp Asn
 340 345 350
 Ile Ser Gly Val Cys Phe Val Gly Leu Tyr Asp Leu Asp Ala Ser Arg
 355 360 365
 Tyr Phe Val Leu Leu Pro Leu Cys Leu Cys Val Phe Val Gly Leu Ser
 370 375 380
 Leu Leu Leu Ala Gly Ile Ile Ser Leu Asn His Val Arg Gln Val Ile
 385 390 395 400
 Gln His Asp Gly Arg Asn Gln Glu Lys Leu Lys Lys Phe Met Ile Arg
 405 410 415
 Ile Gly Val Phe Ser Gly Leu Tyr Leu Val Pro Leu Val Thr Leu Leu
 420 425 430
 Gly Cys Tyr Val Tyr Glu Gln Val Asn Arg Ile Thr Trp Glu Ile Thr
 435 440 445
 Trp Val Ser Asp His Cys Arg Gln Tyr His Ile Pro Cys Pro Tyr Gln
 450 455 460
 Ala Lys Ala Lys Ala Arg Pro Glu Leu Ala Leu Phe Met Ile Lys Tyr
 465 470 475 480
 Leu Met Thr Leu Ile Val Gly Ile Ser Ala Val Phe Trp Val Gly Ser
 485 490 495
 Lys Lys Thr Cys Thr Glu Trp Ala Gly Phe Phe Lys Arg Asn Arg Lys
 500 505 510
 Arg Asp Pro Ile Ser Glu Ser Arg Arg Val Leu Gln Glu Ser Cys Glu
 515 520 525
 Phe Phe Leu Lys His Asn Ser Lys Val Lys His Lys Lys Lys His Tyr
 530 535 540
 Lys Pro Ser Ser His Lys Leu Lys Val Ile Ser Lys Ser Met Gly Thr
 545 550 555 560
 Ser Thr Gly Ala Thr Ala Asn His Gly Thr Ser Ala Val Ala Ile Thr
 565 570 575
 Ser His Asp Tyr Leu Gly Gln Glu Thr Leu Thr Glu Ile Gln Thr Ser
 580 585 590
 Pro Glu Thr Ser Met Arg Glu Val Lys Ala Asp Gly Ala Ser Thr Pro
 595 600 605
 Arg Leu Arg Glu Gln Asp Cys Gly Glu Pro Ala Ser Pro Ala Ala Ser
 610 615 620
 Ile Ser Arg Leu Ser Gly Glu Gln Val Asp Gly Lys Gly Gln Ala Gly
 625 630 635 640
 Ser Val Ser Glu Ser Ala Arg Ser Glu Gly Arg Ile Ser Pro Lys Ser
 645 650 655
 Asp Ile Thr Asp Thr Gly Leu Ala Gln Ser Asn Asn Leu Gln Val Pro

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | 660 | | | | | 665 | | | | 670 | | | |
| Ser | Ser | Ser | Glu | Pro | Ser | Ser | Leu | Lys | Gly | Ser | Thr | Ser | Leu | Leu | Val |
| | | 675 | | | | | 680 | | | | | 685 | | | |
| His | Pro | Val | Ser | Gly | Val | Arg | Lys | Glu | Gln | Gly | Gly | Gly | Cys | His | Ser |
| | 690 | | | | | 695 | | | | | 700 | | | | |
| Asp | Thr | | | | | | | | | | | | | | |
| 705 | | | | | | | | | | | | | | | |

<210> 53
 <211> 709
 <212> PRT
 <213> Mouse

| | | | | | | | | | | | | | | | |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 53 | | | | | | | | | | | | | | | |
| Met | Glu | Arg | Ser | Pro | Phe | Leu | Leu | Ala | Cys | Ile | Leu | Leu | Pro | Leu | Val |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Gly | His | Ser | Leu | Phe | Thr | Cys | Glu | Pro | Ile | Thr | Val | Pro | Arg | Cys |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Met | Lys | Met | Thr | Tyr | Asn | Met | Thr | Phe | Phe | Pro | Asn | Leu | Met | Gly | His |
| | | 35 | | | | 40 | | | | | | 45 | | | |
| Tyr | Asp | Gln | Gly | Ile | Ala | Ala | Val | Glu | Met | Gly | His | Phe | Leu | His | Leu |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Ala | Asn | Leu | Glu | Cys | Ser | Pro | Asn | Ile | Glu | Met | Phe | Leu | Cys | Gln | Ala |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Phe | Ile | Pro | Thr | Cys | Thr | Glu | Gln | Ile | His | Val | Val | Leu | Pro | Cys | Arg |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Lys | Leu | Cys | Glu | Lys | Ile | Val | Ser | Asp | Cys | Lys | Lys | Leu | Met | Asp | Thr |
| | | | 100 | | | | | 105 | | | | | 110 | | |
| Phe | Gly | Ile | Arg | Trp | Pro | Glu | Glu | Leu | Glu | Cys | Asn | Arg | Leu | Pro | His |
| | | 115 | | | | | 120 | | | | | 125 | | | |
| Cys | Asp | Asp | Thr | Val | Pro | Val | Thr | Ser | His | Pro | His | Thr | Glu | Leu | Ser |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Gly | Pro | Gln | Lys | Lys | Ser | Asp | Gln | Val | Pro | Arg | Asp | Ile | Gly | Phe | Trp |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Cys | Pro | Lys | His | Leu | Arg | Thr | Ser | Gly | Asp | Gln | Gly | Tyr | Arg | Phe | Leu |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Gly | Ile | Glu | Gln | Cys | Ala | Pro | Pro | Cys | Pro | Asn | Met | Tyr | Phe | Lys | Ser |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Asp | Glu | Leu | Asp | Phe | Ala | Lys | Ser | Phe | Ile | Gly | Ile | Val | Ser | Ile | Phe |
| | 195 | | | | | 200 | | | | | | 205 | | | |
| Cys | Leu | Cys | Ala | Thr | Leu | Phe | Thr | Phe | Leu | Thr | Phe | Leu | Ile | Asp | Val |
| | 210 | | | | | 215 | | | | | | 220 | | | |
| Arg | Arg | Phe | Arg | Tyr | Pro | Glu | Arg | Pro | Ile | Ile | Tyr | Tyr | Ser | Val | Cys |
| 225 | | | | | 230 | | | | | 235 | | | | 240 | |
| Tyr | Ser | Ile | Val | Ser | Leu | Met | Tyr | Phe | Val | Gly | Phe | Leu | Leu | Gly | Asn |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Ser | Thr | Ala | Cys | Asn | Lys | Ala | Asp | Glu | Lys | Leu | Glu | Leu | Gly | Asp | Thr |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Val | Val | Leu | Gly | Ser | Lys | Asn | Lys | Ala | Cys | Ser | Val | Val | Phe | Met | Phe |
| | | 275 | | | | | 280 | | | | | | 285 | | |
| Leu | Tyr | Phe | Phe | Thr | Met | Ala | Gly | Thr | Val | Trp | Trp | Val | Ile | Leu | Thr |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Ile | Thr | Trp | Phe | Leu | Ala | Ala | Gly | Arg | Lys | Trp | Ser | Cys | Glu | Ala | Ile |
| 305 | | | | | 310 | | | | | 315 | | | | 320 | |
| Glu | Gln | Lys | Ala | Val | Trp | Phe | His | Ala | Val | Ala | Trp | Gly | Ala | Pro | Gly |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Phe | Leu | Thr | Val | Met | Leu | Leu | Ala | Met | Asn | Lys | Val | Glu | Gly | Asp | Asn |

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      340      345      350
Ile Ser Gly Val Cys Phe Val Gly Leu Tyr Asp Leu Asp Ala Ser Arg
      355      360      365
Tyr Phe Val Leu Leu Pro Leu Cys Leu Cys Val Phe Val Gly Leu Ser
      370      375      380
Leu Leu Leu Ala Gly Ile Ile Ser Leu Asn His Val Arg Gln Val Ile
385      390      395      400
Gln His Asp Gly Arg Asn Gln Glu Lys Leu Lys Lys Phe Met Ile Arg
      405      410      415
Ile Gly Val Phe Ser Gly Leu Tyr Leu Val Pro Leu Val Thr Leu Leu
      420      425      430
Gly Cys Tyr Val Tyr Glu Leu Val Asn Arg Ile Thr Trp Glu Met Thr
      435      440      445
Trp Phe Ser Asp His Cys His Gln Tyr Arg Ile Pro Cys Pro Tyr Gln
      450      455      460
Ala Asn Pro Lys Ala Arg Pro Glu Leu Ala Leu Phe Met Ile Lys Tyr
465      470      475      480
Leu Met Thr Leu Ile Val Gly Ile Ser Ala Val Phe Trp Val Gly Ser
      485      490      495
Lys Lys Thr Cys Thr Glu Trp Ala Gly Phe Phe Lys Arg Asn Arg Lys
      500      505      510
Arg Asp Pro Ile Ser Glu Ser Arg Arg Val Leu Gln Glu Ser Cys Glu
      515      520      525
Phe Phe Leu Lys His Asn Ser Lys Val Lys His Lys Lys Lys His Gly
      530      535      540
Ala Pro Gly Pro His Arg Leu Lys Val Ile Ser Lys Ser Met Gly Thr
545      550      555      560
Ser Thr Gly Ala Thr Asn His Gly Thr Ser Ala Met Ala Ile Ala
      565      570      575
Asp His Asp Tyr Leu Gly Gln Glu Thr Ser Thr Glu Val His Thr Ser
      580      585      590
Pro Glu Ala Ser Val Lys Glu Gly Arg Ala Asp Arg Ala Asn Thr Pro
      595      600      605
Ser Ala Lys Asp Arg Asp Cys Gly Glu Ser Ala Gly Pro Ser Ser Lys
      610      615      620
Leu Ser Gly Asn Arg Asn Gly Arg Glu Ser Arg Ala Gly Gly Leu Lys
625      630      635      640
Glu Arg Ser Asn Gly Ser Glu Gly Ala Pro Ser Glu Gly Arg Val Ser
      645      650      655
Pro Lys Ser Ser Val Pro Glu Thr Gly Leu Ile Asp Cys Ser Thr Ser
      660      665      670
Gln Ala Ala Ser Ser Pro Glu Pro Thr Ser Leu Lys Gly Ser Thr Ser
      675      680      685
Leu Pro Val His Ser Ala Ser Arg Ala Arg Lys Glu Gln Gly Ala Gly
      690      695      700
Ser His Ser Asp Ala
705

```

<210> 54

<211> 574

<212> PRT

<213> Homo sapiens

<400> 54

```

Met Arg Asp Pro Gly Ala Ala Ala Pro Leu Ser Ser Leu Gly Leu Cys
 1          5          10          15
Ala Leu Val Leu Ala Leu Leu Gly Ala Leu Ser Ala Gly Ala Gly Ala

```

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | | | | | |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gln | Pro | Tyr | His | Gly | Glu | Lys | Gly | Ile | Ser | Val | Pro | Asp | His | Gly | Phe |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Cys | Gln | Pro | Ile | Ser | Ile | Pro | Leu | Cys | Thr | Asp | Ile | Ala | Tyr | Asn | Gln |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Thr | Ile | Leu | Pro | Asn | Leu | Leu | Gly | His | Thr | Asn | Gln | Glu | Asp | Ala | Gly |
| 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| Leu | Glu | Val | His | Gln | Phe | Tyr | Pro | Leu | Val | Lys | Val | Gln | Cys | Ser | Pro |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Glu | Leu | Arg | Phe | Leu | Cys | Ser | Met | Tyr | Ala | Pro | Val | Cys | Thr | Val | |
| | | | 100 | | | | 105 | | | | | 110 | | | |
| Leu | Asp | Gln | Ala | Ile | Pro | Pro | Cys | Arg | Ser | Leu | Cys | Glu | Arg | Ala | Arg |
| | | 115 | | | | | 120 | | | | 125 | | | | |
| Gln | Gly | Cys | Glu | Ala | Leu | Met | Asn | Lys | Phe | Gly | Phe | Gln | Trp | Pro | Glu |
| | 130 | | | | | 135 | | | | | 140 | | | | |
| Arg | Leu | Arg | Cys | Glu | Asn | Phe | Pro | Val | His | Gly | Ala | Gly | Glu | Ile | Cys |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| Val | Gly | Gln | Asn | Thr | Ser | Asp | Gly | Ser | Gly | Gly | Pro | Gly | Gly | Gly | Pro |
| | | | | 165 | | | | | 170 | | | | | 175 | |
| Thr | Ala | Tyr | Pro | Thr | Ala | Pro | Tyr | Leu | Pro | Asp | Leu | Pro | Phe | Thr | Ala |
| | | | 180 | | | | | 185 | | | | | 190 | | |
| Leu | Pro | Pro | Gly | Ala | Ser | Asp | Gly | Arg | Gly | Arg | Pro | Ala | Phe | Pro | Phe |
| | | 195 | | | | | 200 | | | | | 205 | | | |
| Ser | Cys | Pro | Arg | Gln | Leu | Lys | Val | Pro | Pro | Tyr | Leu | Gly | Tyr | Arg | Phe |
| | 210 | | | | | 215 | | | | | 220 | | | | |
| Leu | Gly | Glu | Arg | Asp | Cys | Gly | Ala | Pro | Cys | Glu | Pro | Gly | Arg | Ala | Asn |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| Gly | Leu | Met | Tyr | Phe | Lys | Glu | Glu | Glu | Arg | Arg | Phe | Ala | Arg | Leu | Trp |
| | | | | 245 | | | | | 250 | | | | | 255 | |
| Val | Gly | Val | Trp | Ser | Val | Leu | Cys | Cys | Ala | Ser | Thr | Leu | Phe | Thr | Val |
| | | | 260 | | | | | 265 | | | | | 270 | | |
| Leu | Thr | Tyr | Leu | Val | Asp | Met | Arg | Arg | Phe | Ser | Tyr | Pro | Glu | Arg | Pro |
| | | 275 | | | | | 280 | | | | | 285 | | | |
| Ile | Ile | Phe | Leu | Ser | Gly | Cys | Tyr | Phe | Met | Val | Ala | Val | Ala | His | Val |
| | 290 | | | | | 295 | | | | | 300 | | | | |
| Ala | Gly | Phe | Leu | Leu | Glu | Asp | Arg | Ala | Val | Cys | Val | Glu | Arg | Phe | Ser |
| 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| Asp | Asp | Gly | Tyr | Arg | Thr | Val | Ala | Gln | Gly | Thr | Lys | Lys | Glu | Gly | Cys |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| Thr | Ile | Leu | Phe | Met | Val | Leu | Tyr | Phe | Gly | Gly | Met | Ala | Ser | Ser | Ile |
| | | | 340 | | | | | 345 | | | | | 350 | | |
| Trp | Trp | Val | Ile | Leu | Ser | Leu | Thr | Trp | Phe | Leu | Ala | Ala | Gly | Met | Lys |
| | | 355 | | | | | 360 | | | | | 365 | | | |
| Trp | Gly | His | Glu | Ala | Ile | Glu | Ala | Asn | Ser | Gln | Tyr | Phe | His | | |

Pro Ala Thr Ile Val Leu Ala Cys Tyr Phe Tyr Glu Gln Ala Phe Arg
 485 490 495
 Glu His Trp Glu Arg Thr Trp Leu Leu Gln Thr Cys Lys Ser Tyr Ala
 500 505 510
 Val Pro Cys Pro Pro Gly His Phe Pro Pro Met Ser Pro Asp Phe Thr
 515 520 525
 Val Phe Met Ile Lys Tyr Leu Met Thr Met Ile Val Gly Ile Thr Thr
 530 535 540
 Gly Phe Trp Ile Trp Ser Gly Lys Thr Leu Gln Ser Trp Arg Arg Phe
 545 550 555 560
 Tyr His Arg Leu Ser His Ser Ser Lys Gly Glu Thr Ala Val
 565 570

<210> 55
 <211> 572
 <212> PRT
 <213> Mouse

<400> 55
 Met Arg Gly Pro Gly Thr Ala Ala Ser His Ser Pro Leu Gly Leu Cys
 1 5 10 15
 Ala Leu Val Leu Ala Leu Leu Gly Ala Leu Pro Thr Asp Thr Arg Ala
 20 25 30
 Gln Pro Tyr His Gly Glu Lys Gly Ile Ser Val Pro Asp His Gly Phe
 35 40 45
 Cys Gln Pro Ile Ser Ile Pro Leu Cys Thr Asp Ile Ala Tyr Asn Gln
 50 55 60
 Thr Ile Leu Pro Asn Leu Leu Gly His Thr Asn Gln Glu Asp Ala Gly
 65 70 75 80
 Leu Glu Val His Gln Phe Tyr Pro Leu Val Lys Val Gln Cys Ser Pro
 85 90 95
 Glu Leu Arg Phe Phe Leu Cys Ser Met Tyr Ala Pro Val Cys Thr Val
 100 105 110
 Leu Asp Gln Ala Ile Pro Pro Cys Arg Ser Leu Cys Glu Arg Ala Arg
 115 120 125
 Gln Gly Cys Glu Ala Leu Met Asn Lys Phe Gly Phe Gln Trp Pro Glu
 130 135 140
 Arg Leu Arg Cys Glu Asn Phe Pro Val His Gly Ala Gly Glu Ile Cys
 145 150 155 160
 Val Gly Gln Asn Thr Ser Asp Gly Ser Gly Ala Gly Gly Ser Pro
 165 170 175
 Thr Ala Tyr Pro Thr Ala Pro Tyr Leu Pro Asp Pro Pro Phe Thr Ala
 180 185 190
 Met Ser Pro Ser Asp Gly Arg Gly Arg Leu Ser Phe Pro Phe Ser Cys
 195 200 205
 Pro Arg Gln Leu Lys Val Pro Pro Tyr Leu Gly Tyr Arg Phe Leu Gly
 210 215 220
 Glu Arg Asp Cys Gly Ala Pro Cys Glu Pro Gly Arg Ala Asn Gly Leu
 225 230 235 240
 Met Tyr Phe Lys Glu Glu Glu Arg Arg Phe Ala Arg Leu Trp Val Gly
 245 250 255
 Val Trp Ser Val Leu Ser Cys Ala Ser Thr Leu Phe Thr Val Leu Thr
 260 265 270
 Tyr Leu Val Asp Met Arg Arg Phe Ser Tyr Pro Glu Arg Pro Ile Ile
 275 280 285
 Phe Leu Ser Gly Cys Tyr Phe Met Val Ala Val Ala His Val Ala Gly
 290 295 300

```

Phe Leu Leu Glu Asp Arg Ala Val Cys Val Glu Arg Phe Ser Asp Asp
305          310          315          320
Gly Tyr Arg Thr Val Ala Gln Gly Thr Lys Lys Glu Gly Cys Thr Ile
          325          330          335
Leu Phe Met Val Leu Tyr Phe Phe Gly Met Ala Ser Ser Ile Trp Trp
          340          345          350
Val Ile Leu Ser Leu Thr Trp Phe Leu Ala Ala Gly Met Lys Trp Gly
          355          360          365
His Glu Ala Ile Glu Ala Asn Ser Gln Tyr Phe His Leu Ala Ala Trp
          370          375          380
Ala Val Pro Ala Val Lys Thr Ile Thr Ile Leu Ala Met Gly Gln Val
385          390          395          400
Asp Gly Asp Leu Leu Ser Gly Val Cys Tyr Val Gly Leu Ser Ser Val
          405          410          415
Asp Ala Leu Arg Gly Phe Val Leu Ala Pro Leu Phe Val Tyr Leu Phe
          420          425          430
Ile Gly Thr Ser Phe Leu Leu Ala Gly Phe Val Ser Leu Phe Arg Ile
          435          440          445
Arg Thr Ile Met Lys His Asp Gly Thr Lys Thr Glu Lys Leu Glu Lys
          450          455          460
Leu Met Val Arg Ile Gly Val Phe Ser Val Leu Tyr Thr Val Pro Ala
465          470          475          480
Thr Ile Val Leu Ala Cys Tyr Phe Tyr Glu Gln Ala Phe Arg Glu His
          485          490          495
Trp Glu Arg Thr Trp Leu Leu Gln Thr Cys Lys Ser Tyr Ala Val Pro
          500          505          510
Cys Pro Pro Arg His Phe Ser Pro Met Ser Pro Asp Phe Thr Val Phe
          515          520          525
Met Ile Lys Tyr Leu Met Thr Met Ile Val Gly Ile Thr Thr Gly Phe
          530          535          540
Trp Ile Trp Ser Gly Lys Thr Leu Gln Ser Trp Arg Arg Phe Tyr His
545          550          555          560
Arg Leu Ser His Ser Ser Lys Gly Glu Thr Ala Val
          565          570

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<210> 56
<211> 694
<212> PRT
<213> Homo sapiens

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<400> 56
Met Glu Trp Gly Tyr Leu Leu Glu Val Thr Ser Leu Leu Ala Ala Leu
1          5          10          15
Ala Leu Leu Gln Arg Ser Ser Gly Ala Ala Ala Ser Ala Lys Glu
          20          25          30
Leu Ala Cys Gln Glu Ile Thr Val Pro Leu Cys Lys Gly Ile Gly Tyr
          35          40          45
Asn Tyr Thr Tyr Met Pro Asn Gln Phe Asn His Asp Thr Gln Asp Glu
          50          55          60
Ala Gly Leu Glu Val His Gln Phe Trp Pro Leu Val Glu Ile Gln Cys
65          70          75          80
Ser Pro Asp Leu Lys Phe Phe Leu Cys Ser Met Tyr Thr Pro Ile Cys
          85          90          95
Leu Glu Asp Tyr Lys Lys Pro Leu Pro Pro Cys Arg Ser Val Cys Glu
          100          105          110
Arg Ala Lys Ala Gly Cys Ala Pro Leu Met Arg Gln Tyr Gly Phe Ala
          115          120          125

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Trp Pro Asp Arg Met Arg Cys Asp Arg Leu Pro Glu Gln Gly Asn Pro
130                      135                      140
Asp Thr Leu Cys Met Asp Tyr Asn Arg Thr Asp Leu Thr Thr Ala Ala
145                      150                      155                      160
Pro Ser Pro Pro Arg Arg Leu Pro Pro Pro Pro Gly Glu Gln Pro
                      165                      170                      175
Pro Ser Gly Ser Gly His Gly Arg Pro Pro Gly Ala Arg Pro Pro His
                      180                      185                      190
Arg Gly Gly Gly Arg Gly Gly Gly Gly Asp Ala Ala Ala Pro Pro
195                      200                      205
Ala Arg Gly Gly Gly Gly Gly Gly Lys Ala Arg Pro Pro Gly Gly Gly
210                      215                      220
Ala Ala Pro Cys Glu Pro Gly Cys Gln Cys Arg Ala Pro Met Val Ser
225                      230                      235                      240
Val Ser Ser Glu Arg His Pro Leu Tyr Asn Arg Val Lys Thr Gly Gln
                      245                      250                      255
Ile Ala Asn Cys Ala Leu Pro Cys His Asn Pro Phe Phe Ser Gln Asp
260                      265                      270
Glu Arg Ala Phe Thr Val Phe Trp Ile Gly Leu Trp Ser Val Leu Cys
275                      280                      285
Phe Val Ser Thr Phe Ala Thr Val Ser Thr Phe Leu Ile Asp Met Glu
290                      295                      300
Arg Phe Lys Tyr Pro Glu Arg Pro Ile Ile Phe Leu Ser Ala Cys Tyr
305                      310                      315                      320
Leu Phe Val Ser Val Gly Tyr Leu Val Arg Leu Val Ala Gly His Glu
                      325                      330                      335
Lys Val Ala Cys Ser Gly Gly Ala Pro Gly Ala Gly Gly Ala Gly Gly
340                      345                      350
Ala Gly Gly Ala Ala Ala Gly Ala Gly Ala Ala Gly Ala Gly Ala Gly
355                      360                      365
Gly Pro Gly Gly Arg Gly Glu Tyr Glu Glu Leu Gly Ala Val Glu Gln
370                      375                      380
His Val Arg Tyr Glu Thr Thr Gly Pro Ala Leu Cys Thr Val Val Phe
385                      390                      395                      400
Leu Leu Val Tyr Phe Phe Gly Met Ala Ser Ser Ile Trp Trp Val Ile
                      405                      410                      415
Leu Ser Leu Thr Trp Phe Leu Ala Ala Gly Met Lys Trp Gly Asn Glu
                      420                      425                      430
Ala Ile Ala Gly Tyr Ser Gln Tyr Phe His Leu Ala Ala Trp Leu Val
                      435                      440                      445
Pro Ser Val Lys Ser Ile Ala Val Leu Ala Leu Ser Ser Val Asp Gly
450                      455                      460
Asp Pro Val Ala Gly Ile Cys Tyr Val Gly Asn Gln Ser Leu Asp Asn
465                      470                      475                      480
Leu Arg Gly Phe Val Leu Ala Pro Leu Val Ile Tyr Leu Phe Ile Gly
                      485                      490                      495
Thr Met Phe Leu Leu Ala Gly Phe Val Ser Leu Phe Arg Ile Arg Ser
500                      505                      510
Val Ile Lys Gln Gln Asp Gly Pro Thr Lys Thr His Lys Leu Glu Lys
515                      520                      525
Leu Met Ile Arg Leu Gly Leu Phe Thr Val Leu Tyr Thr Val Pro Ala
530                      535                      540
Ala Val Val Val Ala Cys Leu Phe Tyr Glu Gln His Asn Arg Pro Arg
545                      550                      555                      560
Trp Glu Ala Thr His Asn Cys Pro Cys Leu Arg Asp Leu Gln Pro Asp
                      565                      570                      575
Gln Ala Arg Arg Pro Asp Tyr Ala Val Phe Met Leu Lys Tyr Phe Met

```


| | | |
|-----------------------------|-------------------------|-----------------|
| 275 | 280 | 285 |
| Thr Phe Ala Thr Val Ser | Thr Phe Leu Ile Asp Met | Glu Arg Phe Lys |
| 290 | 295 | 300 |
| Tyr Pro Glu Arg Pro Ile | Ile Phe Leu Ser Ala Cys | Tyr Leu Phe Val |
| 305 | 310 | 315 |
| Ser Val Gly Tyr Leu Val Arg | Leu Val Ala Gly His | Glu Lys Val Ala |
| 325 | 330 | 335 |
| Cys Ser Gly Gly Ala Pro Gly | Ala Gly Arg Gly Gly | Ala Gly Gly |
| 340 | 345 | 350 |
| Ala Ala Ala Gly Ala Gly | Ala Ala Gly Arg Gly | Ala Ser Ser Pro |
| 355 | 360 | 365 |
| Gly Ala Arg Gly Glu Tyr | Glu Glu Leu Gly Ala Val | Glu Gln His Val |
| 370 | 375 | 380 |
| Arg Tyr Glu Thr Thr Gly | Pro Ala Leu Cys Thr Val | Val Phe Leu Leu |
| 385 | 390 | 395 |
| Val Tyr Phe Phe Gly Met | Ala Ser Ser Ile Trp Trp | Val Ile Leu Ser |
| 405 | 410 | 415 |
| Leu Thr Trp Phe Leu Ala | Ala Gly Met Lys Trp Gly | Asn Glu Ala Ile |
| 420 | 425 | 430 |
| Ala Gly Tyr Ser Gln Tyr | Phe His Leu Ala Ala Trp | Leu Val Pro Ser |
| 435 | 440 | 445 |
| Val Lys Ser Ile Ala Val | Leu Ala Leu Ser Ser Val | Asp Gly Asp Pro |
| 450 | 455 | 460 |
| Val Ala Gly Ile Cys Tyr | Val Gly Asn Gln Ser Leu | Asp Asn Leu Arg |
| 465 | 470 | 475 |
| Gly Phe Val Leu Ala Pro | Leu Val Ile Tyr Leu Phe | Ile Gly Thr Met |
| 485 | 490 | 495 |
| Phe Leu Leu Ala Gly Phe | Val Ser Leu Phe Arg Ile | Arg Ser Val Ile |
| 500 | 505 | 510 |
| Lys Gln Gln Gly Gly Pro | Thr Lys Thr His Lys Leu | Glu Lys Leu Met |
| 515 | 520 | 525 |
| Ile Arg Leu Gly Leu Phe | Thr Val Leu Tyr Thr Val | Pro Ala Ala Val |
| 530 | 535 | 540 |
| Val Val Ala Cys Leu Phe | Tyr Glu Gln His Asn Arg | Pro Arg Trp Glu |
| 545 | 550 | 555 |
| Ala Thr His Asn Cys Pro | Cys Leu Arg Asp Leu Gln | Pro Asp Gln Ala |
| 565 | 570 | 575 |
| Arg Arg Pro Asp Tyr Ala | Val Phe Met Leu Lys Tyr | Phe Met Cys Leu |
| 580 | 585 | 590 |
| Val Val Gly Ile Thr Ser | Gly Val Trp Val Trp Ser | Gly Lys Thr Leu |
| 595 | 600 | 605 |
| Glu Ser Trp Arg Ala Leu | Cys Thr Arg Cys Cys Trp | Ala Ser Lys Gly |
| 610 | 615 | 620 |
| Ala Ala Val Gly Ala Gly | Ala Gly Gly Ser Gly Pro | Gly Gly Ser Gly |
| 625 | 630 | 635 |
| Pro Gly Pro Gly Gly Gly | Gly Gly His Gly Gly Gly | Gly Gly Ser Leu |
| 645 | 650 | 655 |
| Tyr Ser Asp Val Ser Thr | Gly Leu Thr Trp Arg Ser | Gly Thr Ala Ser |
| 660 | 665 | 670 |
| Ser Val Ser Tyr Pro Lys | Gln Met Pro Leu Ser Gln | Val |
| 675 | 680 | 685 |

<210> 58

<211> 591

<212> PRT

<213> Homo sapiens

<400> 58

```

Met Ala Val Ala Pro Leu Arg Gly Ala Leu Leu Leu Trp Gln Leu Leu
 1          5          10          15
Ala Ala Gly Gly Ala Ala Leu Glu Ile Gly Arg Phe Asp Pro Glu Arg
          20          25          30
Gly Arg Gly Ala Ala Pro Cys Gln Ala Val Glu Ile Pro Met Cys Arg
          35          40          45
Gly Ile Gly Tyr Asn Leu Thr Arg Met Pro Asn Leu Leu Gly His Thr
          50          55          60
Ser Gln Gly Glu Ala Ala Glu Leu Ala Glu Phe Ala Pro Leu Val
65          70          75          80
Gln Tyr Gly Cys His Ser His Leu Arg Phe Phe Leu Cys Ser Leu Tyr
          85          90          95
Ala Pro Met Cys Thr Asp Gln Val Ser Thr Pro Ile Pro Ala Cys Arg
          100          105          110
Pro Met Cys Glu Gln Ala Arg Leu Arg Cys Ala Pro Ile Met Glu Gln
          115          120          125
Phe Asn Phe Gly Trp Pro Asp Ser Leu Asp Cys Ala Arg Leu Pro Thr
          130          135          140
Arg Asn Asp Pro His Ala Leu Cys Met Glu Ala Pro Glu Asn Ala Thr
145          150          155          160
Ala Gly Pro Ala Glu Pro His Lys Gly Leu Gly Met Leu Pro Val Ala
          165          170          175
Pro Arg Pro Ala Arg Pro Pro Gly Asp Leu Gly Pro Gly Ala Gly Gly
          180          185          190
Ser Gly Thr Cys Glu Asn Pro Glu Lys Phe Gln Tyr Val Glu Lys Ser
          195          200          205
Arg Ser Cys Ala Pro Arg Cys Gly Pro Gly Val Glu Val Phe Trp Ser
          210          215          220
Arg Arg Asp Lys Asp Phe Ala Leu Val Trp Met Ala Val Trp Ser Ala
225          230          235          240
Leu Cys Phe Phe Ser Thr Ala Phe Thr Val Leu Thr Phe Leu Leu Glu
          245          250          255
Pro His Arg Phe Gln Tyr Pro Glu Arg Pro Ile Ile Phe Leu Ser Met
          260          265          270
Cys Tyr Asn Val Tyr Ser Leu Ala Phe Leu Ile Arg Ala Val Ala Gly
          275          280          285
Ala Gln Ser Val Ala Cys Asp Gln Glu Ala Gly Ala Leu Tyr Val Ile
          290          295          300
Gln Glu Gly Leu Glu Asn Thr Gly Cys Thr Leu Val Phe Leu Leu Leu
305          310          315          320
Tyr Tyr Phe Gly Met Ala Ser Ser Leu Trp Trp Val Val Leu Thr Leu
          325          330          335
Thr Trp Phe Leu Ala Ala Gly Lys Lys Trp Gly His Glu Ala Ile Glu
          340          345          350
Ala His Gly Ser Tyr Phe His Met Ala Ala Trp Gly Leu Pro Ala Leu
          355          360          365
Lys Thr Ile Val Ile Leu Thr Leu Arg Lys Val Ala Gly Asp Glu Leu
          370          375          380
Thr Gly Leu Cys Tyr Val Ala Ser Thr Asp Ala Ala Ala Leu Thr Gly
385          390          395          400
Phe Val Leu Val Pro Leu Ser Gly Tyr Leu Val Leu Gly Ser Ser Phe
          405          410          415
Leu Leu Thr Gly Phe Val Ala Leu Phe His Ile Arg Lys Ile Met Lys
          420          425          430
Thr Gly Gly Thr Asn Thr Glu Lys Leu Glu Lys Leu Met Val Lys Ile
          435          440          445

```

Gly Val Phe Ser Ile Leu Tyr Thr Val Pro Ala Thr Cys Val Ile Val
 450 455 460
 Cys Tyr Val Tyr Glu Arg Leu Asn Met Asp Phe Trp Arg Leu Arg Ala
 465 470 475 480
 Thr Glu Gln Pro Cys Ala Ala Ala Ala Gly Pro Gly Gly Arg Arg Asp
 485 490 495
 Cys Ser Leu Pro Gly Gly Ser Val Pro Thr Val Ala Val Phe Met Leu
 500 505 510
 Lys Ile Phe Met Ser Leu Val Val Gly Ile Thr Ser Gly Val Trp Val
 515 520 525
 Trp Ser Ser Lys Thr Phe Gln Thr Trp Gln Ser Leu Cys Tyr Arg Lys
 530 535 540
 Ile Ala Ala Gly Arg Ala Arg Ala Lys Ala Cys Arg Ala Pro Gly Ser
 545 550 555 560
 Tyr Gly Arg Gly Thr His Cys His Tyr Lys Ala Pro Thr Val Val Leu
 565 570 575
 His Met Thr Lys Thr Asp Pro Ser Leu Glu Asn Pro Thr His Leu
 580 585 590

<210> 59
 <211> 591
 <212> PRT
 <213> Mouse

<400> 59
 Met Ala Val Pro Pro Leu Leu Arg Gly Ala Leu Leu Leu Trp Gln Leu
 1 5 10 15
 Leu Ala Thr Gly Gly Ala Ala Leu Glu Ile Gly Arg Phe Asp Pro Glu
 20 25 30
 Arg Gly Arg Gly Pro Ala Pro Cys Gln Ala Met Glu Ile Pro Met Cys
 35 40 45
 Arg Gly Ile Gly Tyr Asn Leu Thr Arg Met Pro Asn Leu Leu Gly His
 50 55 60
 Thr Ser Gln Gly Glu Ala Ala Ala Gln Leu Ala Glu Phe Ser Pro Leu
 65 70 75 80
 Val Gln Tyr Gly Cys His Ser His Leu Arg Phe Phe Leu Cys Ser Leu
 85 90 95
 Tyr Ala Pro Met Cys Thr Asp Gln Val Ser Thr Pro Ile Pro Ala Cys
 100 105 110
 Arg Pro Met Cys Glu Gln Ala Arg Leu Arg Cys Ala Pro Ile Met Glu
 115 120 125
 Gln Phe Asn Phe Gly Trp Pro Asp Ser Leu Asp Cys Ala Arg Leu Pro
 130 135 140
 Thr Arg Asn Asp Pro His Ala Leu Cys Met Glu Ala Pro Glu Asn Thr
 145 150 155 160
 Ala Gly Pro Thr Glu Pro His Lys Gly Leu Gly Met Leu Pro Val Ala
 165 170 175
 Pro Arg Pro Ala Arg Pro Pro Gly Asp Ser Ala Pro Gly Pro Gly Ser
 180 185 190
 Gly Gly Thr Cys Asp Asn Pro Glu Lys Phe Gln Tyr Val Glu Lys Ser
 195 200 205
 Arg Ser Cys Ala Pro Arg Cys Gly Pro Gly Val Glu Val Phe Trp Ser
 210 215 220
 Arg Arg Asp Lys Asp Phe Ala Leu Val Trp Met Ala Val Trp Ser Ala
 225 230 235 240
 Leu Cys Phe Phe Ser Thr Ala Phe Thr Val Phe Thr Phe Leu Leu Glu
 245 250 255

```

Pro His Arg Phe Gln Tyr Pro Glu Arg Pro Ile Ile Phe Leu Ser Met
      260                265                270
Cys Tyr Asn Val Tyr Ser Leu Ala Phe Leu Ile Arg Ala Val Ala Gly
      275                280                285
Ala Gln Ser Val Ala Cys Asp Gln Glu Ala Gly Ala Leu Tyr Val Ile
      290                295                300
Gln Glu Gly Leu Glu Asn Thr Gly Cys Thr Leu Val Phe Leu Leu Leu
305                310                315                320
Tyr Tyr Phe Gly Met Ala Ser Ser Leu Trp Trp Val Val Leu Thr Leu
      325                330                335
Thr Trp Phe Leu Ala Ala Gly Lys Lys Trp Gly His Glu Ala Ile Glu
      340                345                350
Ala His Gly Ser Tyr Phe His Met Ala Ala Trp Gly Leu Pro Ala Leu
      355                360                365
Lys Thr Ile Val Val Leu Thr Leu Arg Lys Val Ala Gly Asp Glu Leu
      370                375                380
Thr Gly Leu Cys Tyr Val Ala Ser Met Asp Pro Ala Ala Leu Thr Gly
385                390                395                400
Phe Val Leu Val Pro Leu Ser Cys Tyr Leu Val Leu Gly Thr Ser Phe
      405                410                415
Leu Leu Thr Gly Phe Val Ala Leu Phe His Ile Arg Lys Ile Met Lys
      420                425                430
Thr Gly Gly Thr Asn Thr Glu Lys Leu Glu Lys Leu Met Val Lys Ile
      435                440                445
Gly Val Phe Ser Ile Leu Tyr Thr Val Pro Ala Thr Cys Val Ile Val
      450                455                460
Cys Tyr Val Tyr Glu Arg Leu Asn Met Asp Phe Trp Arg Leu Arg Ala
465                470                475                480
Thr Glu Gln Pro Cys Thr Ala Ala Thr Val Pro Gly Gly Arg Arg Asp
      485                490                495
Cys Ser Leu Pro Gly Gly Ser Val Pro Thr Val Ala Val Phe Met Leu
      500                505                510
Lys Ile Phe Met Ser Leu Val Val Gly Ile Thr Ser Gly Val Trp Val
      515                520                525
Trp Ser Ser Lys Thr Phe Gln Thr Trp Gln Ser Leu Cys Tyr Arg Lys
      530                535                540
Met Ala Ala Gly Arg Ala Arg Ala Lys Ala Cys Arg Thr Pro Gly Gly
545                550                555                560
Tyr Gly Arg Gly Thr His Cys His Tyr Lys Ala Pro Thr Val Val Leu
      565                570                575
His Met Thr Lys Thr Asp Pro Ser Leu Glu Asn Pro Thr His Leu
      580                585                590

```

<210> 60

<211> 581

<212> PRT

<213> Homo sapiens

<220>

<221> Variant

<222> (464)

<223> Xaa = any amino acid

<400> 60

```

Met Gln Arg Pro Gly Pro Arg Leu Trp Leu Val Leu Gln Val Met Gly
  1                5                10                15
Ser Cys Ala Ala Ile Ser Ser Met Asp Met Glu Arg Pro Gly Asp Gly

```

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| | | | 20 | | | | | 25 | | | | | 30 | | | |
| Lys | Cys | Gln | Pro | Ile | Glu | Ile | Pro | Met | Cys | Lys | Asp | Ile | Gly | Tyr | Asn | |
| | | 35 | | | | | 40 | | | | | 45 | | | | |
| Met | Thr | Arg | Met | Pro | Asn | Leu | Met | Gly | His | Glu | Asn | Gln | Arg | Glu | Ala | |
| | 50 | | | | | 55 | | | | | 60 | | | | | |
| Ala | Ile | Gln | Leu | His | Glu | Phe | Ala | Pro | Leu | Val | Glu | Tyr | Gly | Cys | His | |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | | |
| Gly | His | Leu | Arg | Phe | Phe | Leu | Cys | Ser | Leu | Tyr | Ala | Pro | Met | Cys | Thr | |
| | | | | 85 | | | | | 90 | | | | 95 | | | |
| Glu | Gln | Val | Ser | Thr | Pro | Ile | Pro | Ala | Cys | Arg | Val | Met | Cys | Glu | Gln | |
| | | | 100 | | | | | 105 | | | | | 110 | | | |
| Ala | Arg | Leu | Lys | Cys | Ser | Pro | Ile | Met | Glu | Gln | Phe | Asn | Phe | Lys | Trp | |
| | | 115 | | | | | 120 | | | | | 125 | | | | |
| Pro | Asp | Ser | Leu | Asp | Cys | Arg | Lys | Leu | Pro | Asn | Lys | Asn | Asp | Pro | Asn | |
| | 130 | | | | | 135 | | | | | 140 | | | | | |
| Tyr | Leu | Cys | Met | Glu | Ala | Pro | Asn | Asn | Gly | Ser | Asp | Glu | Pro | Thr | Arg | |
| 145 | | | | 150 | | | | | | 155 | | | | 160 | | |
| Gly | Ser | Gly | Leu | Phe | Pro | Pro | Leu | Phe | Arg | Pro | Gln | Arg | Pro | His | Ser | |
| | | | | 165 | | | | | 170 | | | | | 175 | | |
| Ala | Gln | Glu | His | Pro | Leu | Lys | Asp | Gly | Gly | Pro | Gly | Arg | Gly | Gly | Cys | |
| | | | 180 | | | | | 185 | | | | | 190 | | | |
| Asp | Asn | Pro | Gly | Lys | Phe | His | His | Val | Glu | Lys | Ser | Ala | Ser | Cys | Ala | |
| | | 195 | | | | | 200 | | | | | 205 | | | | |
| Pro | Leu | Cys | Thr | Pro | Gly | Val | Asp | Val | Tyr | Trp | Ser | Arg | Glu | Asp | Lys | |
| | 210 | | | | | 215 | | | | | | 220 | | | | |
| Arg | Phe | Ala | Val | Val | Trp | Leu | Ala | Ile | Trp | Ala | Val | Leu | Cys | Phe | Phe | |
| 225 | | | | | 230 | | | | | 235 | | | | | 240 | |
| Ser | Ser | Ala | Phe | Thr | Val | Leu | Thr | Phe | Leu | Ile | Asp | Pro | Ala | Arg | Phe | |
| | | | | 245 | | | | | 250 | | | | | 255 | | |
| Arg | Tyr | Pro | Glu | Arg | Pro | Ile | Ile | Phe | Leu | Ser | Met | Cys | Tyr | Cys | Val | |
| | | | 260 | | | | | 265 | | | | | 270 | | | |
| Tyr | Ser | Val | Gly | Tyr | Leu | Ile | Arg | Leu | Phe | Ala | Gly | Ala | Glu | Ser | Ile | |
| | | 275 | | | | | 280 | | | | | 285 | | | | |
| Ala | Cys | Asp | Arg | Asp | Ser | Gly | Gln | Leu | Tyr | Val | Ile | Gln | Glu | Gly | Leu | |
| | 290 | | | | | 295 | | | | | 300 | | | | | |
| Glu | Ser | Thr | Gly | Cys | Thr | Leu | Val | Phe | Leu | Val | Leu | Tyr | Tyr | Phe | Gly | |
| 305 | | | | | 310 | | | | | 315 | | | | 320 | | |
| Met | Ala | Ser | Ser | Leu | Trp | Trp | Val | Val | Leu | Thr | Leu | Thr | Trp | Phe | Leu | |
| | | | | 325 | | | | | 330 | | | | | 335 | | |
| Ala | Ala | Gly | Lys | Trp | Gly | His | Glu | Ala | Ile | Glu | Ala | Asn | Ser | Ser | | |
| | | | 340 | | | | 345 | | | | | 350 | | | | |
| Tyr | Phe | His | Leu | Ala | Ala | Trp | Ala | Ile | Pro | Ala | Val | Lys | Thr | Ile | Leu | |
| | | 355 | | | | | 360 | | | | | 365 | | | | |
| Ile | Leu | Val | Met | Arg | Arg | Val | Ala | Gly | Asp | Glu | Leu | Thr | Gly | Val | Cys | |
| | 370 | | | | | 375 | | | | | 380 | </ | | | | |

Cys Lys Met Asn Asn Gln Thr Lys Thr Leu Asp Cys Leu Met Ala Ala
 485 490 495
 Ser Ile Pro Ala Val Glu Ile Phe Met Val Lys Ile Phe Met Leu Leu
 500 505 510
 Val Val Gly Ile Thr Ser Gly Met Trp Ile Trp Thr Ser Lys Thr Leu
 515 520 525
 Gln Ser Trp Gln Gln Val Cys Ser Arg Arg Leu Lys Lys Lys Ser Arg
 530 535 540
 Arg Lys Pro Ala Ser Val Ile Thr Ser Gly Gly Ile Tyr Lys Lys Ala
 545 550 555 560
 Gln His Pro Gln Lys Thr His His Gly Lys Tyr Glu Ile Pro Ala Gln
 565 570 575
 Ser Pro Thr Cys Val
 580

<210> 61
 <211> 319
 <212> PRT
 <213> Homo sapiens

<400> 61
 Met Ala Glu Glu Glu Ala Pro Lys Lys Ser Arg Ala Ala Gly Gly Gly
 1 5 10 15
 Ala Ser Trp Glu Leu Cys Ala Gly Ala Leu Ser Ala Arg Leu Ala Glu
 20 25 30
 Glu Gly Ser Gly Asp Ala Gly Gly Arg Arg Arg Pro Pro Val Asp Pro
 35 40 45
 Arg Arg Leu Ala Arg Gln Leu Leu Leu Leu Trp Leu Leu Glu Ala
 50 55 60
 Pro Leu Leu Leu Gly Val Arg Ala Gln Ala Ala Gly Gln Gly Pro Gly
 65 70 75 80
 Gln Gly Pro Gly Pro Gly Gln Gln Pro Pro Pro Pro Pro Gln Gln Gln
 85 90 95
 Gln Ser Gly Gln Gln Tyr Asn Gly Glu Arg Gly Ile Ser Val Pro Asp
 100 105 110
 His Gly Tyr Cys Gln Pro Ile Ser Ile Pro Leu Cys Thr Asp Ile Ala
 115 120 125
 Tyr Asn Gln Thr Ile Met Pro Asn Leu Leu Gly His Thr Asn Gln Glu
 130 135 140
 Asp Ala Gly Leu Glu Val His Gln Phe Tyr Pro Leu Val Lys Val Gln
 145 150 155 160
 Cys Ser Ala Glu Leu Lys Phe Phe Leu Cys Ser Met Tyr Ala Pro Val
 165 170 175
 Cys Thr Val Leu Glu Gln Ala Leu Pro Pro Cys Arg Ser Leu Cys Glu
 180 185 190
 Arg Ala Arg Gln Gly Cys Glu Ala Leu Met Asn Lys Phe Gly Phe Gln
 195 200 205
 Trp Pro Asp Thr Leu Lys Cys Glu Lys Phe Pro Val His Gly Ala Gly
 210 215 220
 Glu Leu Cys Val Gly Gln Asn Thr Ser Asp Lys Gly Thr Pro Thr Pro
 225 230 235 240
 Ser Leu Leu Pro Glu Phe Trp Thr Ser Asn Pro Gln His Gly Gly Gly
 245 250 255
 Gly His Arg Gly Gly Phe Pro Gly Gly Ala Gly Ala Ser Glu Arg Gly
 260 265 270
 Lys Phe Ser Cys Pro Arg Ala Leu Lys Val Pro Ser Tyr Leu Asn Tyr
 275 280 285

His Phe Leu Gly Glu Lys Asp Cys Gly Ala Pro Cys Glu Pro Thr Lys
 290 295 300
 Val Tyr Gly Leu Met Tyr Phe Gly Pro Glu Glu Leu Arg Phe Ser
 305 310 315

<210> 62
 <211> 314
 <212> PRT
 <213> Mouse

<400> 62
 Met Ala Glu Glu Ala Ala Pro Ser Glu Ser Arg Ala Ala Gly Arg Leu
 1 5 10 15
 Ser Leu Glu Leu Cys Ala Glu Ala Leu Pro Gly Arg Arg Glu Glu Val
 20 25 30
 Gly His Glu Asp Thr Ala Ser His Arg Arg Pro Arg Ala Asp Pro Arg
 35 40 45
 Arg Trp Ala Ser Gly Leu Leu Leu Leu Leu Trp Leu Leu Glu Ala Pro
 50 55 60
 Leu Leu Leu Gly Val Arg Ala Gln Ala Ala Gly Gln Val Ser Gly Pro
 65 70 75 80
 Gly Gln Gln Ala Pro Pro Pro Pro Gln Pro Gln Gln Ser Gly Gln Gln
 85 90 95
 Tyr Asn Gly Glu Arg Gly Ile Ser Ile Pro Asp His Gly Tyr Cys Gln
 100 105 110
 Pro Ile Ser Ile Pro Leu Cys Thr Asp Met Ala Tyr Asn Gln Thr Ile
 115 120 125
 Met Pro Asn Leu Leu Gly His Thr Asn Gln Glu Asp Ala Gly Leu Glu
 130 135 140
 Val His Gln Phe Tyr Pro Leu Val Lys Val Gln Cys Ser Ala Glu Leu
 145 150 155 160
 Lys Phe Phe Leu Cys Ser Met Tyr Ala Pro Val Cys Thr Val Leu Glu
 165 170 175
 Gln Ala Leu Pro Pro Cys Arg Ser Leu Cys Glu Arg Ala Arg Gln Gly
 180 185 190
 Cys Glu Ala Leu Met Asn Lys Phe Gly Phe Gln Trp Pro Asp Thr Leu
 195 200 205
 Lys Cys Glu Lys Phe Pro Val His Gly Ala Gly Glu Leu Cys Val Gly
 210 215 220
 Gln Asn Thr Ser Asp Lys Gly Thr Pro Thr Pro Ser Leu Leu Pro Glu
 225 230 235 240
 Phe Trp Thr Ser Asn Gly Gln His Gly Gly Gly Tyr Arg Gly Gly
 245 250 255
 Tyr Pro Gly Gly Ala Gly Thr Val Glu Arg Gly Lys Phe Ser Cys Pro
 260 265 270
 Arg Ala Leu Arg Val Pro Ser Tyr Leu Asn Tyr His Phe Leu Gly Glu
 275 280 285
 Lys Asp Cys Gly Ala Pro Cys Glu Pro Thr Lys Val Tyr Gly Leu Met
 290 295 300
 Tyr Phe Gly Pro Glu Glu Leu Arg Phe Ser
 305 310

<210> 63
 <211> 244
 <212> PRT
 <213> Homo sapiens

<400> 63

```

Met Arg Pro Arg Ser Ala Leu Pro Arg Leu Leu Leu Pro Leu Leu Leu
 1           5           10           15
Leu Pro Ala Ala Gly Pro Ala Gln Phe His Gly Glu Lys Gly Ile Ser
 20           25           30
Ile Pro Asp His Gly Phe Cys Gln Pro Ile Ser Ile Pro Leu Cys Thr
 35           40           45
Asp Ile Ala Tyr Asn Gln Thr Ile Met Pro Asn Leu Leu Gly His Thr
 50           55           60
Asn Gln Glu Asp Ala Gly Leu Glu Val His Gln Phe Tyr Pro Leu Val
 65           70           75           80
Lys Val Gln Cys Ser Pro Glu Leu Arg Phe Phe Leu Cys Ser Met Tyr
 85           90           95
Ala Pro Val Cys Thr Val Leu Glu Gln Ala Ile Pro Pro Cys Arg Ser
 100          105          110
Ile Cys Glu Arg Ala Arg Gln Gly Cys Glu Ala Leu Met Asn Lys Phe
 115          120          125
Gly Phe Gln Trp Pro Glu Arg Leu Arg Cys Glu His Phe Pro Arg His
 130          135          140
Gly Ala Glu Gln Ile Cys Val Gly Gln Asn His Ser Glu Asp Gly Ala
 145          150          155          160
Pro Ala Leu Leu Thr Thr Ala Pro Pro Pro Gly Leu Gln Pro Gly Ala
 165          170          175
Gly Gly Thr Pro Gly Gly Pro Gly Gly Gly Gly Ala Pro Pro Arg Tyr
 180          185          190
Ala Thr Leu Glu His Pro Phe His Cys Pro Arg Val Leu Lys Val Pro
 195          200          205
Ser Tyr Leu Ser Tyr Lys Phe Leu Gly Glu Arg Asp Cys Ala Ala Pro
 210          215          220
Cys Glu Pro Ala Arg Pro Asp Gly Ser Met Phe Phe Ser Gln Glu Glu
 225          230          235          240
Thr Arg Phe Ala

```

<210> 64

<211> 202

<212> PRT

<213> Homo sapiens

<400> 64

```

Met Ala Met Thr Trp Ile Val Phe Ser Leu Trp Pro Leu Thr Val Phe
 1           5           10           15
Met Gly His Ile Gly Gly His Ser Leu Phe Ser Cys Glu Pro Ile Thr
 20           25           30
Leu Arg Met Cys Gln Asp Leu Pro Tyr Asn Thr Thr Phe Met Pro Asn
 35           40           45
Leu Leu Asn His Tyr Asp Gln Gln Thr Ala Ala Leu Ala Met Glu Pro
 50           55           60
Phe His Pro Met Val Asn Leu Asp Cys Ser Arg Asp Phe Arg Pro Phe
 65           70           75           80
Leu Cys Ala Leu Tyr Ala Pro Ile Cys Met Glu Tyr Gly Arg Val Thr
 85           90           95
Leu Pro Cys Arg Arg Leu Cys Gln Arg Ala Tyr Ser Glu Cys Ser Lys
 100          105          110
Leu Met Glu Met Phe Gly Val Pro Trp Pro Glu Asp Met Glu Cys Ser
 115          120          125
Arg Phe Pro Asp Cys Asp Glu Pro Tyr Pro Arg Leu Val Asp Leu Asn

```


| | | | | |
|---|-----|-----|-----|-----|
| 130 | | 135 | | 140 |
| Leu Ala Gly Glu Pro Thr Glu Gly Ala Pro Val Ala Val Gln Arg Asp | | | | |
| 145 | | 150 | | 155 |
| Tyr Gly Phe Trp Cys Pro Arg Glu Leu Lys Ile Asp Pro Asp Leu Gly | | | | 160 |
| | 165 | | 170 | |
| Tyr Ser Phe Leu His Val Arg Asp Cys Ser Pro Pro Cys Pro Asn Met | | | | 175 |
| | 180 | | 185 | 190 |
| Tyr Phe Arg Arg Glu Glu Leu Ser Phe Ala | | | | |
| 195 | | 200 | | |

<210> 65
 <211> 202
 <212> PRT
 <213> Mouse

| |
|---|
| <400> 65 |
| Met Ala Val Ser Trp Ile Val Phe Asp Leu Trp Leu Leu Thr Val Phe |
| 1 5 10 15 |
| Leu Gly Gln Ile Gly Gly His Ser Leu Phe Ser Cys Glu Pro Ile Thr |
| 20 25 30 |
| Leu Arg Met Cys Gln Asp Leu Pro Tyr Asn Thr Thr Phe Met Pro Asn |
| 35 40 45 |
| Leu Leu Asn His Tyr Asp Gln Gln Thr Ala Ala Leu Ala Met Glu Pro |
| 50 55 60 |
| Phe His Pro Met Val Asn Leu Asp Cys Ser Arg Asp Phe Arg Pro Phe |
| 65 70 75 80 |
| Leu Cys Ala Leu Tyr Ala Pro Ile Cys Met Glu Tyr Gly Arg Val Thr |
| 85 90 95 |
| Leu Pro Cys Arg Arg Leu Cys Gln Arg Ala Tyr Ser Glu Cys Ser Lys |
| 100 105 110 |
| Leu Met Glu Met Phe Gly Val Pro Trp Pro Glu Asp Met Glu Cys Ser |
| 115 120 125 |
| Arg Phe Pro Asp Cys Asp Glu Pro Tyr Pro Arg Leu Val Asp Leu Asn |
| 130 135 140 |
| Leu Val Gly Asp Pro Thr Glu Gly Ala Pro Val Ala Val Gln Arg Asp |
| 145 150 155 160 |
| Tyr Gly Phe Trp Cys Pro Arg Glu Leu Lys Ile Asp Pro Asp Leu Gly |
| 165 170 175 |
| Tyr Ser Phe Leu His Val Arg Asp Cys Ser Pro Pro Cys Pro Asn Met |
| 180 185 190 |
| Tyr Phe Arg Arg Glu Glu Leu Ser Phe Ala |
| 195 200 |

<210> 66
 <211> 219
 <212> PRT
 <213> Homo sapiens

| |
|---|
| <400> 66 |
| Met Ala Trp Arg Gly Ala Gly Pro Ser Val Pro Gly Ala Pro Gly Gly |
| 1 5 10 15 |
| Val Gly Leu Ser Leu Gly Leu Leu Leu Gln Leu Leu Leu Leu Gly |
| 20 25 30 |
| Pro Ala Arg Gly Phe Gly Asp Glu Glu Glu Arg Arg Cys Asp Pro Ile |
| 35 40 45 |
| Arg Ile Ser Met Cys Gln Asn Leu Gly Tyr Asn Val Thr Lys Met Pro |
| 50 55 60 |

```

Asn Leu Val Gly His Glu Leu Gln Thr Asp Ala Glu Leu Gln Leu Thr
65          70          75          80
Thr Phe Thr Pro Leu Ile Gln Tyr Gly Cys Ser Ser Gln Leu Gln Phe
          85          90          95
Phe Leu Cys Ser Val Tyr Val Pro Met Cys Thr Glu Lys Ile Asn Ile
          100         105         110
Pro Ile Gly Pro Cys Gly Gly Met Cys Leu Ser Val Lys Arg Arg Cys
          115         120         125
Glu Pro Val Leu Lys Glu Phe Gly Phe Ala Trp Pro Glu Ser Leu Asn
          130         135         140
Cys Ser Lys Phe Pro Pro Gln Asn Asp His Asn His Met Cys Met Glu
145          150         155         160
Gly Pro Gly Asp Glu Glu Val Pro Leu Pro His Lys Thr Pro Ile Gln
          165         170         175
Pro Gly Glu Glu Cys His Ser Val Gly Thr Asn Ser Asp Gln Tyr Ile
          180         185         190
Trp Val Lys Arg Ser Leu Asn Cys Val Leu Lys Cys Gly Tyr Asp Ala
          195         200         205
Gly Leu Tyr Ser Arg Ser Ala Lys Glu Phe Thr
          210         215

```

<210> 67
<211> 219
<212> PRT
<213> Mouse

```

<400> 67
Met Ala Trp Pro Gly Thr Gly Pro Ser Ser Arg Gly Ala Pro Gly Gly
1          5          10          15
Val Gly Leu Arg Leu Gly Leu Leu Leu Gln Phe Leu Leu Leu Leu Arg
          20          25          30
Pro Thr Leu Gly Phe Gly Asp Glu Glu Glu Arg Arg Cys Asp Pro Ile
          35          40          45
Arg Ile Ala Met Cys Gln Asn Leu Gly Tyr Asn Val Thr Lys Met Pro
          50          55          60
Asn Leu Val Gly His Glu Leu Gln Thr Asp Ala Glu Leu Gln Leu Thr
65          70          75          80
Thr Phe Thr Pro Leu Ile Gln Tyr Gly Cys Ser Ser Gln Leu Gln Phe
          85          90          95
Phe Leu Cys Ser Val Tyr Val Pro Met Cys Thr Glu Lys Ile Asn Ile
          100         105         110
Pro Ile Gly Pro Cys Gly Gly Met Cys Leu Ser Val Lys Arg Arg Cys
          115         120         125
Glu Pro Val Leu Arg Glu Phe Gly Phe Ala Trp Pro Asp Thr Leu Asn
          130         135         140
Cys Ser Lys Phe Pro Pro Gln Asn Asp His Asn His Met Cys Met Glu
145          150         155         160
Gly Pro Gly Asp Glu Glu Val Pro Leu Pro His Lys Thr Pro Ile Gln
          165         170         175
Pro Gly Glu Glu Cys His Ser Val Gly Ser Asn Ser Asp Gln Tyr Ile
          180         185         190
Trp Val Lys Arg Ser Leu Asn Cys Val Leu Lys Cys Gly Tyr Asp Ala
          195         200         205
Gly Leu Tyr Ser Arg Ser Ala Lys Glu Phe Thr
          210         215

```

<210> 68

<211> 235
 <212> PRT
 <213> Homo sapiens

<400> 68

```

Met Ala Arg Pro Asp Pro Ser Ala Pro Pro Ser Leu Leu Leu Leu Leu
1          5          10          15
Leu Ala Gln Leu Val Gly Arg Ala Ala Ala Ser Lys Ala Pro Val
          20          25          30
Cys Gln Glu Ile Thr Val Pro Met Cys Arg Gly Ile Gly Tyr Asn Leu
          35          40          45
Thr His Met Pro Asn Gln Phe Asn His Asp Thr Gln Asp Glu Ala Gly
          50          55          60
Leu Glu Val His Gln Phe Trp Pro Leu Val Glu Ile Gln Cys Ser Pro
65          70          75          80
Asp Leu Arg Phe Phe Leu Cys Thr Met Tyr Thr Pro Ile Cys Leu Pro
          85          90          95
Asp Tyr His Lys Pro Leu Pro Pro Cys Arg Ser Val Cys Glu Arg Ala
          100          105          110
Lys Ala Gly Cys Ser Pro Leu Met Arg Gln Tyr Gly Phe Ala Trp Pro
          115          120          125
Glu Arg Met Ser Cys Asp Arg Leu Pro Val Leu Gly Arg Asp Ala Glu
          130          135          140
Val Leu Cys Met Asp Tyr Asn Arg Ser Glu Ala Thr Thr Ala Pro Pro
145          150          155          160
Arg Pro Phe Pro Ala Lys Pro Thr Leu Pro Gly Pro Pro Gly Ala Pro
          165          170          175
Ala Ser Gly Gly Glu Cys Pro Ala Gly Gly Pro Phe Val Cys Lys Cys
          180          185          190
Arg Glu Pro Phe Val Pro Ile Leu Lys Glu Ser His Pro Leu Tyr Asn
          195          200          205
Lys Val Arg Thr Gly Gln Val Pro Asn Cys Ala Val Pro Cys Tyr Gln
          210          215          220
Pro Ser Phe Ser Ala Asp Glu Arg Thr Phe Ala
225          230          235

```

<210> 69
 <211> 198
 <212> PRT
 <213> Homo sapiens

<400> 69

```

Met Glu Met Phe Thr Phe Leu Leu Thr Cys Ile Phe Leu Pro Leu Leu
1          5          10          15
Arg Gly His Ser Leu Phe Thr Cys Glu Pro Ile Thr Val Pro Arg Cys
          20          25          30
Met Lys Met Ala Tyr Asn Met Thr Phe Phe Pro Asn Leu Met Gly His
          35          40          45
Tyr Asp Gln Ser Ile Ala Ala Val Glu Met Glu His Phe Leu Pro Leu
          50          55          60
Ala Asn Leu Glu Cys Ser Pro Asn Ile Glu Thr Phe Leu Cys Lys Ala
65          70          75          80
Phe Val Pro Thr Cys Ile Glu Gln Ile His Val Val Pro Pro Cys Arg
          85          90          95
Lys Leu Cys Glu Lys Val Tyr Ser Asp Cys Lys Lys Leu Ile Asp Thr
          100          105          110
Phe Gly Ile Arg Trp Pro Glu Glu Leu Glu Cys Asp Arg Leu Gln Tyr

```

```

      115              120              125
Cys Asp Glu Thr Val Pro Val Thr Phe Asp Pro His Thr Glu Phe Leu
      130              135              140
Gly Pro Gln Lys Lys Thr Glu Gln Val Gln Arg Asp Ile Gly Phe Trp
145              150              155              160
Cys Pro Arg His Leu Lys Thr Ser Gly Gly Gln Gly Tyr Lys Phe Leu
      165              170              175
Gly Ile Asp Gln Cys Ala Pro Pro Cys Pro Asn Met Tyr Phe Lys Ser
      180              185              190
Asp Glu Leu Glu Phe Ala
      195

```

<210> 70
 <211> 198
 <212> PRT
 <213> Mouse

```

<400> 70
Met Glu Arg Ser Pro Phe Leu Leu Ala Cys Ile Leu Leu Pro Leu Val
 1              5              10              15
Arg Gly His Ser Leu Phe Thr Cys Glu Pro Ile Thr Val Pro Arg Cys
      20              25              30
Met Lys Met Thr Tyr Asn Met Thr Phe Phe Pro Asn Leu Met Gly His
      35              40              45
Tyr Asp Gln Gly Ile Ala Ala Val Glu Met Gly His Phe Leu His Leu
      50              55              60
Ala Asn Leu Glu Cys Ser Pro Asn Ile Glu Met Phe Leu Cys Gln Ala
65              70              75              80
Phe Ile Pro Thr Cys Thr Glu Gln Ile His Val Val Leu Pro Cys Arg
      85              90              95
Lys Leu Cys Glu Lys Ile Val Ser Asp Cys Lys Lys Leu Met Asp Thr
      100             105             110
Phe Gly Ile Arg Trp Pro Glu Glu Leu Glu Cys Asn Arg Leu Pro His
      115             120             125
Cys Asp Asp Thr Val Pro Val Thr Ser His Pro His Thr Glu Leu Ser
      130             135             140
Gly Pro Gln Lys Lys Ser Asp Gln Val Pro Arg Asp Ile Gly Phe Trp
145              150              155              160
Cys Pro Lys His Leu Arg Thr Ser Gly Asp Gln Gly Tyr Arg Phe Leu
      165              170              175
Gly Ile Glu Gln Cys Ala Pro Pro Cys Pro Asn Met Tyr Phe Lys Ser
      180              185              190
Asp Glu Leu Asp Phe Ala
      195

```

<210> 71
 <211> 253
 <212> PRT
 <213> Homo sapiens

```

<400> 71
Met Arg Asp Pro Gly Ala Ala Ala Pro Leu Ser Ser Leu Gly Leu Cys
 1              5              10              15
Ala Leu Val Leu Ala Leu Leu Gly Ala Leu Ser Ala Gly Ala Gly Ala
      20              25              30
Gln Pro Tyr His Gly Glu Lys Gly Ile Ser Val Pro Asp His Gly Phe
      35              40              45

```

```

Cys Gln Pro Ile Ser Ile Pro Leu Cys Thr Asp Ile Ala Tyr Asn Gln
 50                      55                      60
Thr Ile Leu Pro Asn Leu Leu Gly His Thr Asn Gln Glu Asp Ala Gly
65                      70                      75                      80
Leu Glu Val His Gln Phe Tyr Pro Leu Val Lys Val Gln Cys Ser Pro
                      85                      90                      95
Glu Leu Arg Phe Phe Leu Cys Ser Met Tyr Ala Pro Val Cys Thr Val
100                      105                      110
Leu Asp Gln Ala Ile Pro Pro Cys Arg Ser Leu Cys Glu Arg Ala Arg
115                      120                      125
Gln Gly Cys Glu Ala Leu Met Asn Lys Phe Gly Phe Gln Trp Pro Glu
130                      135                      140
Arg Leu Arg Cys Glu Asn Phe Pro Val His Gly Ala Gly Glu Ile Cys
145                      150                      155                      160
Val Gly Gln Asn Thr Ser Asp Gly Ser Gly Gly Pro Gly Gly Gly Pro
165                      170                      175
Thr Ala Tyr Pro Thr Ala Pro Tyr Leu Pro Asp Leu Pro Phe Thr Ala
180                      185                      190
Leu Pro Pro Gly Ala Ser Asp Gly Arg Gly Arg Pro Ala Phe Pro Phe
195                      200                      205
Ser Cys Pro Arg Gln Leu Lys Val Pro Pro Tyr Leu Gly Tyr Arg Phe
210                      215                      220
Leu Gly Glu Arg Asp Cys Gly Ala Pro Cys Glu Pro Gly Arg Ala Asn
225                      230                      235                      240
Gly Leu Met Tyr Phe Lys Glu Glu Glu Arg Arg Phe Ala
245                      250

```

<210> 72
 <211> 251
 <212> PRT
 <213> Mouse

```

<400> 72
Met Arg Gly Pro Gly Thr Ala Ala Ser His Ser Pro Leu Gly Leu Cys
 1                      5                      10                      15
Ala Leu Val Leu Ala Leu Leu Gly Ala Leu Pro Thr Asp Thr Arg Ala
20                      25                      30
Gln Pro Tyr His Gly Glu Lys Gly Ile Ser Val Pro Asp His Gly Phe
35                      40                      45
Cys Gln Pro Ile Ser Ile Pro Leu Cys Thr Asp Ile Ala Tyr Asn Gln
50                      55                      60
Thr Ile Leu Pro Asn Leu Leu Gly His Thr Asn Gln Glu Asp Ala Gly
65                      70                      75                      80
Leu Glu Val His Gln Phe Tyr Pro Leu Val Lys Val Gln Cys Ser Pro
85                      90                      95
Glu Leu Arg Phe Phe Leu Cys Ser Met Tyr Ala Pro Val Cys Thr Val
100                      105                      110
Leu Asp Gln Ala Ile Pro Pro Cys Arg Ser Leu Cys Glu Arg Ala Arg
115                      120                      125
Gln Gly Cys Glu Ala Leu Met Asn Lys Phe Gly Phe Gln Trp Pro Glu
130                      135                      140
Arg Leu Arg Cys Glu Asn Phe Pro Val His Gly Ala Gly Glu Ile Cys
145                      150                      155                      160
Val Gly Gln Asn Thr Ser Asp Gly Ser Gly Gly Ala Gly Gly Ser Pro
165                      170                      175
Thr Ala Tyr Pro Thr Ala Pro Tyr Leu Pro Asp Pro Pro Phe Thr Ala
180                      185                      190

```

```

Met Ser Pro Ser Asp Gly Arg Gly Arg Leu Ser Phe Pro Phe Ser Cys
      195                200                205
Pro Arg Gln Leu Lys Val Pro Pro Tyr Leu Gly Tyr Arg Phe Leu Gly
      210                215                220
Glu Arg Asp Cys Gly Ala Pro Cys Glu Pro Gly Arg Ala Asn Gly Leu
225                230                235                240
Met Tyr Phe Lys Glu Glu Arg Arg Phe Ala
      245                250

```

<210> 73
 <211> 277
 <212> PRT
 <213> Homo sapiens

```

<400> 73
Met Glu Trp Gly Tyr Leu Leu Glu Val Thr Ser Leu Leu Ala Ala Leu
 1      5      10      15
Ala Leu Leu Gln Arg Ser Ser Gly Ala Ala Ala Ala Ser Ala Lys Glu
      20      25      30
Leu Ala Cys Gln Glu Ile Thr Val Pro Leu Cys Lys Gly Ile Gly Tyr
      35      40      45
Asn Tyr Thr Tyr Met Pro Asn Gln Phe Asn His Asp Thr Gln Asp Glu
50      55      60
Ala Gly Leu Glu Val His Gln Phe Trp Pro Leu Val Glu Ile Gln Cys
65      70      75      80
Ser Pro Asp Leu Lys Phe Phe Leu Cys Ser Met Tyr Thr Pro Ile Cys
      85      90      95
Leu Glu Asp Tyr Lys Lys Pro Leu Pro Pro Cys Arg Ser Val Cys Glu
      100      105      110
Arg Ala Lys Ala Gly Cys Ala Pro Leu Met Arg Gln Tyr Gly Phe Ala
      115      120      125
Trp Pro Asp Arg Met Arg Cys Asp Arg Leu Pro Glu Gln Gly Asn Pro
130      135      140
Asp Thr Leu Cys Met Asp Tyr Asn Arg Thr Asp Leu Thr Thr Ala Ala
145      150      155      160
Pro Ser Pro Pro Arg Arg Leu Pro Pro Pro Pro Pro Gly Glu Gln Pro
      165      170      175
Pro Ser Gly Ser Gly His Gly Arg Pro Pro Gly Ala Arg Pro Pro His
      180      185      190
Arg Gly Gly Gly Arg Gly Gly Gly Gly Gly Asp Ala Ala Ala Pro Pro
195      200      205
Ala Arg Gly Gly Gly Gly Gly Gly Lys Ala Arg Pro Pro Gly Gly Gly
210      215      220
Ala Ala Pro Cys Glu Pro Gly Cys Gln Cys Arg Ala Pro Met Val Ser
225      230      235      240
Val Ser Ser Glu Arg His Pro Leu Tyr Asn Arg Val Lys Thr Gly Gln
      245      250      255
Ile Ala Asn Cys Ala Leu Pro Cys His Asn Pro Phe Phe Ser Gln Asp
      260      265      270
Glu Arg Ala Phe Thr
      275

```

<210> 74
 <211> 274
 <212> PRT
 <213> Mouse

<400> 74

```

Met Glu Trp Gly Tyr Leu Leu Glu Val Thr Ser Leu Leu Ala Ala Leu
 1          5          10          15
Ala Val Leu Gln Arg Ser Ser Gly Ala Ala Ala Ser Ala Lys Glu
          20          25          30
Leu Ala Cys Gln Glu Ile Thr Val Pro Leu Cys Lys Gly Ile Gly Tyr
          35          40          45
Asn Tyr Thr Tyr Met Pro Asn Gln Phe Asn His Asp Thr Gln Asp Glu
          50          55          60
Ala Gly Leu Glu Val His Gln Phe Trp Pro Leu Val Glu Ile Gln Cys
65          70          75          80
Ser Pro Asp Leu Lys Phe Phe Leu Cys Ser Met Tyr Thr Pro Ile Cys
          85          90          95
Leu Glu Asp Tyr Lys Lys Pro Leu Pro Pro Cys Arg Ser Val Cys Glu
          100          105          110
Arg Ala Lys Ala Gly Cys Ala Pro Leu Met Arg Gln Tyr Gly Phe Ala
          115          120          125
Trp Pro Asp Arg Met Arg Cys Asp Arg Leu Pro Glu Gln Gly Asn Pro
          130          135          140
Asp Thr Leu Cys Met Asp Tyr Asn Arg Thr Asp Leu Thr Thr Ala Ala
145          150          155          160
Pro Ser Pro Pro Arg Arg Leu Pro Pro Pro Pro Pro Gly Glu Gln
          165          170          175
Pro Pro Ser Gly Ser Gly His Ser Arg Pro Pro Gly Ala Arg Pro Pro
          180          185          190
His Arg Gly Gly Ser Ser Arg Gly Ser Gly Asp Ala Ala Ala Pro
          195          200          205
Pro Ser Arg Gly Gly Lys Ala Arg Pro Pro Gly Gly Gly Ala Ala Pro
          210          215          220
Cys Glu Pro Gly Cys Gln Cys Arg Ala Pro Met Val Ser Val Ser Ser
225          230          235          240
Glu Arg His Pro Leu Tyr Asn Arg Val Lys Thr Gly Gln Ile Ala Asn
          245          250          255
Cys Ala Leu Pro Cys His Asn Pro Phe Phe Ser Gln Asp Glu Arg Ala
          260          265          270
Phe Thr

```

<210> 75

<211> 231

<212> PRT

<213> Homo sapiens

<400> 75

```

Met Ala Val Ala Pro Leu Arg Gly Ala Leu Leu Leu Trp Gln Leu Leu
 1          5          10          15
Ala Ala Gly Gly Ala Ala Leu Glu Ile Gly Arg Phe Asp Pro Glu Arg
          20          25          30
Gly Arg Gly Ala Ala Pro Cys Gln Ala Val Glu Ile Pro Met Cys Arg
          35          40          45
Gly Ile Gly Tyr Asn Leu Thr Arg Met Pro Asn Leu Leu Gly His Thr
          50          55          60
Ser Gln Gly Glu Ala Ala Ala Glu Leu Ala Glu Phe Ala Pro Leu Val
65          70          75          80
Gln Tyr Gly Cys His Ser His Leu Arg Phe Phe Leu Cys Ser Leu Tyr
          85          90          95
Ala Pro Met Cys Thr Asp Gln Val Ser Thr Pro Ile Pro Ala Cys Arg

```

| | | | | | |
|---|-----|--|-----|--|-----|
| | 100 | | 105 | | 110 |
| Pro Met Cys Glu Gln Ala Arg Leu Arg Cys Ala Pro Ile Met Glu Gln | | | | | |
| 115 | | | 120 | | 125 |
| Phe Asn Phe Gly Trp Pro Asp Ser Leu Asp Cys Ala Arg Leu Pro Thr | | | | | |
| 130 | | | 135 | | 140 |
| Arg Asn Asp Pro His Ala Leu Cys Met Glu Ala Pro Glu Asn Ala Thr | | | | | |
| 145 | | | 150 | | 155 |
| Ala Gly Pro Ala Glu Pro His Lys Gly Leu Gly Met Leu Pro Val Ala | | | | | |
| | 165 | | 170 | | 175 |
| Pro Arg Pro Ala Arg Pro Pro Gly Asp Leu Gly Pro Gly Ala Gly Gly | | | | | |
| | 180 | | 185 | | 190 |
| Ser Gly Thr Cys Glu Asn Pro Glu Lys Phe Gln Tyr Val Glu Lys Ser | | | | | |
| 195 | | | 200 | | 205 |
| Arg Ser Cys Ala Pro Arg Cys Gly Pro Gly Val Glu Val Phe Trp Ser | | | | | |
| 210 | | | 215 | | 220 |
| Arg Arg Asp Lys Asp Phe Ala | | | | | |
| 225 | | | 230 | | |

<210> 76
 <211> 232
 <212> PRT
 <213> Mouse

| | |
|---|-----|
| <400> 76 | |
| Met Ala Val Pro Pro Leu Leu Arg Gly Ala Leu Leu Leu Trp Gln Leu | |
| 1 | 5 |
| Leu Ala Thr Gly Gly Ala Ala Leu Glu Ile Gly Arg Phe Asp Pro Glu | 10 |
| | 15 |
| 20 | 25 |
| Arg Gly Arg Gly Pro Ala Pro Cys Gln Ala Met Glu Ile Pro Met Cys | 30 |
| 35 | 40 |
| Arg Gly Ile Gly Tyr Asn Leu Thr Arg Met Pro Asn Leu Leu Gly His | 45 |
| 50 | 55 |
| Thr Ser Gln Gly Glu Ala Ala Ala Gln Leu Ala Glu Phe Ser Pro Leu | 60 |
| 65 | 70 |
| Val Gln Tyr Gly Cys His Ser His Leu Arg Phe Phe Leu Cys Ser Leu | 75 |
| | 80 |
| 85 | 90 |
| Tyr Ala Pro Met Cys Thr Asp Gln Val Ser Thr Pro Ile Pro Ala Cys | 95 |
| 100 | 105 |
| Arg Pro Met Cys Glu Gln Ala Arg Leu Arg Cys Ala Pro Ile Met Glu | 110 |
| 115 | 120 |
| Gln Phe Asn Phe Gly Trp Pro Asp Ser Leu Asp Cys Ala Arg Leu Pro | 125 |
| 130 | 135 |
| Thr Arg Asn Asp Pro His Ala Leu Cys Met Glu Ala Pro Glu Asn Ala | 140 |
| 145 | 150 |
| Thr Ala Gly Pro Thr Glu Pro His Lys Gly Leu Gly Met Leu Pro Val | 155 |
| | 160 |
| 165 | 170 |
| Ala Pro Arg Pro Ala Arg Pro Pro Gly Asp Ser Ala Pro Gly Pro Gly | 175 |
| | 180 |
| 185 | 190 |
| Ser Gly Gly Thr Cys Asp Asn Pro Glu Lys Phe Gln Tyr Val Glu Lys | 195 |
| 200 | 205 |
| Ser Arg Ser Cys Ala Pro Arg Cys Gly Pro Gly Val Glu Val Phe Trp | 210 |
| 215 | 220 |
| Ser Arg Arg Asp Lys Asp Phe Ala | |
| 225 | 230 |

<210> 77
 <211> 227

<212> PRT
 <213> Homo sapiens

<400> 77

```

Met Gln Arg Pro Gly Pro Arg Leu Trp Leu Val Leu Gln Val Met Gly
1          5          10          15
Ser Cys Ala Ala Ile Ser Ser Met Asp Met Glu Arg Pro Gly Asp Gly
20          25          30
Lys Cys Gln Pro Ile Glu Ile Pro Met Cys Lys Asp Ile Gly Tyr Asn
35          40          45
Met Thr Arg Met Pro Asn Leu Met Gly His Glu Asn Gln Arg Glu Ala
50          55          60
Ala Ile Gln Leu His Glu Phe Ala Pro Leu Val Glu Tyr Gly Cys His
65          70          75          80
Gly His Leu Arg Phe Phe Leu Cys Ser Leu Tyr Ala Pro Met Cys Thr
85          90          95
Glu Gln Val Ser Thr Pro Ile Pro Ala Cys Arg Val Met Cys Glu Gln
100         105         110
Ala Arg Leu Lys Cys Ser Pro Ile Met Glu Gln Phe Asn Phe Lys Trp
115         120         125
Pro Asp Ser Leu Asp Cys Arg Lys Leu Pro Asn Lys Asn Asp Pro Asn
130         135         140
Tyr Leu Cys Met Glu Ala Pro Asn Asn Gly Ser Asp Glu Pro Thr Arg
145         150         155         160
Gly Ser Gly Leu Phe Pro Pro Leu Phe Arg Pro Gln Arg Pro His Ser
165         170         175
Ala Gln Glu His Pro Leu Lys Asp Gly Gly Pro Gly Arg Gly Gly Cys
180         185         190
Asp Asn Pro Gly Lys Phe His His Val Glu Lys Ser Ala Ser Cys Ala
195         200         205
Pro Leu Cys Thr Pro Gly Val Asp Val Tyr Trp Ser Arg Glu Asp Lys
210         215         220
Arg Phe Ala
225

```

<210> 78
 <211> 29
 <212> PRT
 <213> Homo sapiens

<400> 78

```

Asp Arg Val Val Cys Asn Asp Lys Phe Ala Glu Asp Gly Ala Arg Thr
1          5          10          15
Val Ala Gln Gly Thr Lys Lys Glu Gly Cys Thr Ile Leu
20          25

```

<210> 79
 <211> 29
 <212> PRT
 <213> Mouse

<400> 79

```

Asp Arg Val Val Cys Asn Asp Lys Phe Ala Glu Asp Gly Ala Arg Thr
1          5          10          15
Val Ala Gln Gly Thr Asn Lys Glu Gly Cys Thr Ile Leu
20          25

```

<210> 80
 <211> 29
 <212> PRT
 <213> Homo sapiens

<400> 80
 Glu Arg Val Val Cys Asn Glu Arg Phe Ser Glu Asp Gly Tyr Arg Thr
 1 5 10 15
 Val Val Gln Gly Thr Lys Lys Glu Gly Cys Thr Ile Leu
 20 25

<210> 81
 <211> 30
 <212> PRT
 <213> Homo sapiens

<400> 81
 Asp Arg Val Ala Cys Asn Ala Ser Ile Pro Ala Gln Tyr Lys Ala Ser
 1 5 10 15
 Thr Val Thr Gln Gly Ser His Asn Lys Ala Cys Thr Met Leu
 20 25 30

<210> 82
 <211> 30
 <212> PRT
 <213> Mouse

<400> 82
 Asp Arg Val Ala Cys Asn Ala Ser Ser Pro Ala Gln Tyr Lys Ala Ser
 1 5 10 15
 Thr Val Thr Gln Gly Ser His Asn Lys Ala Cys Thr Met Leu
 20 25 30

<210> 83
 <211> 29
 <212> PRT
 <213> Homo sapiens

<400> 83
 Arg Glu Arg Ile Ser Cys Asp Phe Glu Glu Ala Ala Glu Pro Val Leu
 1 5 10 15
 Ile Gln Glu Gly Leu Lys Asn Thr Gly Cys Ala Ile Ile
 20 25

<210> 84
 <211> 29
 <212> PRT
 <213> Mouse

<400> 84
 Arg Glu Arg Ile Ser Cys Asp Phe Glu Glu Ala Ala Glu Pro Val Leu
 1 5 10 15
 Ile Gln Glu Gly Leu Lys Asn Thr Gly Cys Ala Ile Ile
 20 25

<210> 85
 <211> 26

<212> PRT

<213> Homo sapiens

<400> 85

His Ala Ser Val Ala Cys Ser Arg Glu His Asn His Ile His Tyr Glu

1 5 10 15

Thr Thr Gly Pro Ala Leu Cys Thr Ile Val

20 25

<210> 86

<211> 30

<212> PRT

<213> Homo sapiens

<400> 86

Asp Ser Thr Ala Cys Asn Lys Ala Asp Glu Lys Leu Glu Leu Gly Asp

1 5 10 15

Thr Val Val Leu Gly Ser Gln Asn Lys Ala Cys Thr Val Leu

20 25 30

<210> 87

<211> 30

<212> PRT

<213> Mouse

<400> 87

Asn Ser Thr Ala Cys Asn Lys Ala Asp Glu Lys Leu Glu Leu Gly Asp

1 5 10 15

Thr Val Val Leu Gly Ser Lys Asn Lys Ala Cys Ser Val Val

20 25 30

<210> 88

<211> 29

<212> PRT

<213> Homo sapiens

<400> 88

Asp Arg Ala Val Cys Val Glu Arg Phe Ser Asp Asp Gly Tyr Arg Thr

1 5 10 15

Val Ala Gln Gly Thr Lys Lys Glu Gly Cys Thr Ile Leu

20 25

<210> 89

<211> 29

<212> PRT

<213> Mouse

<400> 89

Asp Arg Ala Val Cys Val Glu Arg Phe Ser Asp Asp Gly Tyr Arg Thr

1 5 10 15

Val Ala Gln Gly Thr Lys Lys Glu Gly Cys Thr Ile Leu

20 25

<210> 90

<211> 65

<212> PRT

<213> Homo sapiens

<400> 90

```

His Glu Lys Val Ala Cys Ser Gly Gly Ala Pro Gly Ala Gly Gly Ala
 1           5           10           15
Gly Gly Ala Gly Gly Ala Ala Ala Gly Ala Gly Ala Ala Gly Ala Gly
          20           25           30
Ala Gly Gly Pro Gly Gly Arg Gly Glu Tyr Glu Glu Leu Gly Ala Val
          35           40           45
Glu Gln His Val Arg Tyr Glu Thr Thr Gly Pro Ala Leu Cys Thr Val
          50           55           60
Val
65

```

<210> 91

<211> 66

<212> PRT

<213> Mouse

<400> 91

```

His Glu Lys Val Ala Cys Ser Gly Gly Ala Pro Gly Ala Gly Gly Arg
 1           5           10           15
Gly Gly Ala Gly Gly Ala Ala Ala Gly Ala Gly Ala Ala Gly Arg
          20           25           30
Gly Ala Ser Ser Pro Gly Ala Arg Gly Glu Tyr Glu Glu Leu Gly Ala
          35           40           45
Val Glu Gln His Val Arg Tyr Glu Thr Thr Gly Pro Ala Leu Cys Thr
          50           55           60
Val Val
65

```

<210> 92

<211> 28

<212> PRT

<213> Homo sapiens

<400> 92

```

Ala Gln Ser Val Ala Cys Asp Gln Glu Ala Gly Ala Leu Tyr Val Ile
 1           5           10           15
Gln Glu Gly Leu Glu Asn Thr Gly Cys Thr Leu Val
          20           25

```

<210> 93

<211> 28

<212> PRT

<213> Mouse

<400> 93

```

Ala Gln Ser Val Ala Cys Asp Gln Glu Ala Gly Ala Leu Tyr Val Ile
 1           5           10           15
Gln Glu Gly Leu Glu Asn Thr Gly Cys Thr Leu Val
          20           25

```

<210> 94

<211> 28

<212> PRT

<213> Homo sapiens

<400> 94

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Glu | Ser | Ile | Ala | Cys | Asp | Arg | Asp | Ser | Gly | Gln | Leu | Tyr | Val | Ile |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gln | Glu | Gly | Leu | Glu | Ser | Thr | Gly | Cys | Thr | Leu | Val | | | | |
| | | | 20 | | | | | 25 | | | | | | | |

<210> 95

<211> 25

<212> PRT

<213> Homo sapiens

<400> 95

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gln | Val | Asp | Gly | Asp | Val | Leu | Ser | Gly | Val | Cys | Phe | Val | Gly | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asn | Asn | Val | Asp | Ala | Leu | Arg | Gly | Phe | | | | | | | |
| | | | 20 | | | | | 25 | | | | | | | |

<210> 96

<211> 25

<212> PRT

<213> Mouse

<400> 96

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gln | Val | Asp | Gly | Asp | Val | Leu | Ser | Gly | Val | Cys | Phe | Leu | Gly | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asn | Asn | Val | Asp | Ala | Leu | Arg | Gly | Phe | | | | | | | |
| | | | 20 | | | | | 25 | | | | | | | |

<210> 97

<211> 25

<212> PRT

<213> Homo sapiens

<400> 97

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Gln | Ile | Asp | Gly | Asp | Leu | Leu | Ser | Gly | Val | Cys | Phe | Val | Gly | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Asn | Ser | Leu | Asp | Pro | Leu | Arg | Gly | Phe | | | | | | | |
| | | | 20 | | | | | 25 | | | | | | | |

<210> 98

<211> 25

<212> PRT

<213> Homo sapiens

<400> 98

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Lys | Ile | Glu | Gly | Asp | Asn | Ile | Ser | Gly | Val | Cys | Phe | Val | Gly | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Tyr | Asp | Val | Asp | Ala | Leu | Arg | Tyr | Phe | | | | | | | |
| | | | 20 | | | | | 25 | | | | | | | |

<210> 99

<211> 25

<212> PRT

<213> Mouse

<400> 99

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asn | Lys | Ile | Glu | Gly | Asp | Asn | Ile | Ser | Gly | Val | Cys | Phe | Val | Gly | Leu |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

| | | | |
|-----|-----|-----|-----|
| 1 | 5 | 10 | 15 |
| Tyr | Asp | Val | Asp |
| | Ala | Leu | Arg |
| | | Tyr | Phe |
| | 20 | | 25 |

<210> 100
 <211> 25
 <212> PRT
 <213> Homo sapiens

| |
|---|
| <400> 100 |
| Arg Leu Val Asp Ala Asp Glu Leu Thr Gly Leu Cys Tyr Val Gly Asn |
| 1 5 10 15 |
| Gln Asn Leu Asp Ala Leu Thr Gly Phe |
| 20 25 |

<210> 101
 <211> 25
 <212> PRT
 <213> Mouse

| |
|---|
| <400> 101 |
| Arg Leu Val Asp Ala Asp Glu Leu Thr Gly Leu Cys Tyr Val Gly Asn |
| 1 5 10 15 |
| Gln Asn Leu Asp Ala Leu Thr Gly Phe |
| 20 25 |

<210> 102
 <211> 25
 <212> PRT
 <213> Homo sapiens

| |
|---|
| <400> 102 |
| Ser Ser Val Asp Gly Asp Pro Val Ala Gly Ile Cys Tyr Val Gly Asn |
| 1 5 10 15 |
| Gln Asn Leu Asn Ser Leu Arg Arg Phe |
| 20 25 |

<210> 103
 <211> 25
 <212> PRT
 <213> Homo sapiens

| |
|---|
| <400> 103 |
| Asn Lys Val Glu Gly Asp Asn Ile Ser Gly Val Cys Phe Val Gly Leu |
| 1 5 10 15 |
| Tyr Asp Leu Asp Ala Ser Arg Tyr Phe |
| 20 25 |

<210> 104
 <211> 25
 <212> PRT
 <213> Mouse

| |
|---|
| <400> 104 |
| Asn Lys Val Glu Gly Asp Asn Ile Ser Gly Val Cys Phe Val Gly Leu |
| 1 5 10 15 |
| Tyr Asp Leu Asp Ala Ser Arg Tyr Phe |

20

25

<210> 105
 <211> 25
 <212> PRT
 <213> Homo sapiens

<400> 105
 Gly Gln Val Asp Gly Asp Leu Leu Ser Gly Val Cys Tyr Val Gly Leu
 1 5 10 15
 Ser Ser Val Asp Ala Leu Arg Gly Phe
 20 25

<210> 106
 <211> 25
 <212> PRT
 <213> Mouse

<400> 106
 Gly Gln Val Asp Gly Asp Leu Leu Ser Gly Val Cys Tyr Val Gly Leu
 1 5 10 15
 Ser Ser Val Asp Ala Leu Arg Gly Phe
 20 25

<210> 107
 <211> 25
 <212> PRT
 <213> Homo sapiens

<400> 107
 Ser Ser Val Asp Gly Asp Pro Val Ala Gly Ile Cys Tyr Val Gly Asn
 1 5 10 15
 Gln Ser Leu Asp Asn Leu Arg Gly Phe
 20 25

<210> 108
 <211> 25
 <212> PRT
 <213> Mouse

<400> 108
 Ser Ser Val Asp Gly Asp Pro Val Ala Gly Ile Cys Tyr Val Gly Asn
 1 5 10 15
 Gln Ser Leu Asp Asn Leu Arg Gly Phe
 20 25

<210> 109
 <211> 25
 <212> PRT
 <213> Homo sapiens

<400> 109
 Arg Lys Val Ala Gly Asp Glu Leu Thr Gly Leu Cys Tyr Val Ala Ser
 1 5 10 15
 Thr Asp Ala Ala Ala Leu Thr Gly Phe
 20 25

<210> 110
 <211> 25
 <212> PRT
 <213> Mouse

<400> 110
 Arg Lys Val Ala Gly Asp Glu Leu Thr Gly Leu Cys Tyr Val Ala Ser
 1 5 10 15
 Met Asp Pro Ala Ala Leu Thr Gly Phe
 20 25

<210> 111
 <211> 24
 <212> PRT
 <213> Homo sapiens

<400> 111
 Arg Arg Val Ala Gly Asp Glu Leu Thr Gly Val Cys Tyr Val Gly Ser
 1 5 10 15
 Met Asp Val Asn Ala Leu Thr Gly
 20

<210> 112
 <211> 39
 <212> PRT
 <213> Homo sapiens

<400> 112
 Ala Phe Arg Asp Gln Trp Glu Arg Ser Trp Val Ala Gln Ser Cys Lys
 1 5 10 15
 Ser Tyr Ala Ile Pro Cys Pro His Leu Gln Ala Gly Gly Gly Ala Pro
 20 25 30
 Pro His Pro Pro Met Ser Pro
 35

<210> 113
 <211> 39
 <212> PRT
 <213> Mouse

<400> 113
 Ala Phe Arg Asp Gln Trp Glu Arg Ser Trp Val Ala Gln Ser Cys Lys
 1 5 10 15
 Ser Tyr Ala Ile Pro Cys Pro His Leu Gln Gly Gly Gly Gly Val Pro
 20 25 30
 Pro His Pro Pro Met Ser Pro
 35

<210> 114
 <211> 32
 <212> PRT
 <213> Homo sapiens

<400> 114
 Ala Phe Arg Glu His Trp Glu Arg Ser Trp Val Ser Gln His Cys Lys
 1 5 10 15
 Ser Leu Ala Ile Pro Cys Pro Ala His Tyr Thr Pro Arg Met Ser Pro

20

25

30

<210> 115
 <211> 32
 <212> PRT
 <213> Homo sapiens

<400> 115
 Ala Tyr Arg Gly Ile Trp Glu Thr Thr Trp Ile Gln Glu Arg Cys Arg
 1 5 10 15
 Glu Tyr His Ile Pro Cys Pro Tyr Gln Val Thr Gln Met Ser Arg Pro
 20 25 30

<210> 116
 <211> 32
 <212> PRT
 <213> Mouse

<400> 116
 Ala Tyr Arg Gly Ile Trp Glu Thr Thr Trp Ile Gln Glu Arg Cys Arg
 1 5 10 15
 Glu Tyr His Ile Pro Cys Pro Tyr Gln Val Thr Gln Met Ser Arg Pro
 20 25 30

<210> 117
 <211> 17
 <212> PRT
 <213> Homo sapiens

<400> 117
 Ser Asn Trp Ala Leu Phe Arg Tyr Ser Ala Asp Asp Ser Asn Met Ala
 1 5 10 15
 Val

<210> 118
 <211> 17
 <212> PRT
 <213> Mouse

<400> 118
 Ser Asn Trp Ala Leu Phe Arg Tyr Ser Ala Asp Asp Ser Asn Met Ala
 1 5 10 15
 Val

<210> 119
 <211> 26
 <212> PRT
 <213> Homo sapiens

<400> 119
 His Tyr Arg Glu Ser Trp Glu Ala Ala Leu Thr Cys Ala Cys Pro Gly
 1 5 10 15
 His Asp Thr Gly Gln Pro Arg Ala Lys Pro
 20 25

<210> 120
 <211> 32
 <212> PRT
 <213> Homo sapiens

<400> 120
 Val Asn Arg Ile Thr Trp Glu Ile Thr Trp Val Ser Asp His Cys Arg
 1 5 10 15
 Gln Tyr His Ile Pro Cys Pro Tyr Gln Ala Lys Ala Lys Ala Arg Pro
 20 25 30

<210> 121
 <211> 32
 <212> PRT
 <213> Mouse

<400> 121
 Val Asn Arg Ile Thr Trp Glu Met Thr Trp Phe Ser Asp His Cys His
 1 5 10 15
 Gln Tyr Arg Ile Pro Cys Pro Tyr Gln Ala Asn Pro Lys Ala Arg Pro
 20 25 30

<210> 122
 <211> 32
 <212> PRT
 <213> Homo sapiens

<400> 122
 Ala Phe Arg Glu His Trp Glu Arg Thr Trp Leu Leu Gln Thr Cys Lys
 1 5 10 15
 Ser Tyr Ala Val Pro Cys Pro Pro Gly His Phe Pro Pro Met Ser Pro
 20 25 30

<210> 123
 <211> 32
 <212> PRT
 <213> Mouse

<400> 123
 Ala Phe Arg Glu His Trp Glu Arg Thr Trp Leu Leu Gln Thr Cys Lys
 1 5 10 15
 Ser Tyr Ala Val Pro Cys Pro Pro Arg His Phe Ser Pro Met Ser Pro
 20 25 30

<210> 124
 <211> 26
 <212> PRT
 <213> Homo sapiens

<400> 124
 His Asn Arg Pro Arg Trp Glu Ala Thr His Asn Cys Pro Cys Leu Arg
 1 5 10 15
 Asp Leu Gln Pro Asp Gln Ala Arg Arg Pro
 20 25

<210> 125
 <211> 26

<212> PRT
<213> Mouse

<400> 125
His Asn Arg Pro Arg Trp Glu Ala Thr His Asn Cys Pro Cys Leu Arg
1 5 10 15
Asp Leu Gln Pro Asp Gln Ala Arg Arg Pro
20 25

<210> 126
<211> 35
<212> PRT
<213> Homo sapiens

<400> 126
Leu Asn Met Asp Phe Trp Arg Leu Arg Ala Thr Glu Gln Pro Cys Ala
1 5 10 15
Ala Ala Ala Gly Pro Gly Gly Arg Arg Asp Cys Ser Leu Pro Gly Gly
20 25 30
Ser Val Pro
35

<210> 127
<211> 35
<212> PRT
<213> Mouse

<400> 127
Leu Asn Met Asp Phe Trp Arg Leu Arg Ala Thr Glu Gln Pro Cys Thr
1 5 10 15
Ala Ala Thr Val Pro Gly Gly Arg Arg Asp Cys Ser Leu Pro Gly Gly
20 25 30
Ser Val Pro
35

<210> 128
<211> 33
<212> PRT
<213> Homo sapiens

<400> 128
Leu Asn Met Asp Tyr Trp Lys Ile Leu Ala Ala Gln His Lys Cys Lys
1 5 10 15
Met Asn Asn Gln Thr Lys Thr Leu Asp Cys Leu Met Ala Ala Ser Ile
20 25 30
Pro

<210> 129
<211> 48
<212> PRT
<213> Homo sapiens

<400> 129
Val Gly Gln Asn Thr Ser Asp Lys Gly Thr Pro Ser Leu Leu Pro Glu
1 5 10 15
Phe Trp Thr Ser Asn Pro Gln His Gly Gly Gly His Arg Gly Gly Phe

20 25 30
 Pro Gly Gly Ala Gly Ala Ser Glu Arg Gly Lys Phe Ser Cys Pro Arg
 35 40 45

<210> 130
 <211> 51
 <212> PRT
 <213> Homo sapiens

<400> 130
 Val Gly Gln Asn His Ser Glu Asp Gly Ala Pro Ala Leu Leu Thr Thr
 1 5 10 15
 Ala Pro Pro Pro Gly Leu Gln Pro Gly Ala Gly Gly Thr Pro Gly Gly
 20 25 30
 Pro Gly Gly Gly Gly Ala Pro Pro Arg Tyr Ala Thr Leu Glu His Pro
 35 40 45
 Phe His Cys
 50

<210> 131
 <211> 26
 <212> PRT
 <213> Homo sapiens

<400> 131
 Leu Val Asp Leu Asn Leu Ala Gly Glu Pro Thr Glu Gly Ala Pro Val
 1 5 10 15
 Ala Val Gln Arg Asp Tyr Gly Phe Trp Cys
 20 25

<210> 132
 <211> 20
 <212> PRT
 <213> Homo sapiens

<400> 132
 Cys Met Glu Gly Pro Gly Asp Glu Glu Val Pro Leu Pro His Lys Thr
 1 5 10 15
 Pro Ile Gln Pro
 20

<210> 133
 <211> 46
 <212> PRT
 <213> Homo sapiens

<400> 133
 Cys Met Asp Tyr Asn Arg Ser Glu Ala Thr Thr Ala Pro Pro Arg Pro
 1 5 10 15
 Phe Pro Ala Lys Pro Thr Leu Pro Gly Pro Pro Gly Ala Pro Ala Ser
 20 25 30
 Gly Gly Glu Cys Pro Ala Gly Gly Pro Phe Val Cys Lys Cys
 35 40 45

<210> 134
 <211> 26
 <212> PRT

<213> Homo sapiens

<400> 134

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Thr | Phe | Asp | Pro | His | Thr | Glu | Phe | Leu | Gly | Pro | Gln | Lys | Lys | Thr | Glu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gln | Val | Gln | Arg | Asp | Ile | Gly | Phe | Met | Cys | | | | | | |
| | | | 20 | | | | | 25 | | | | | | | |

<210> 135

<211> 50

<212> PRT

<213> Homo sapiens

<400> 135

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| Val | Gly | Gln | Asn | Thr | Ser | Asp | Gly | Ser | Gly | Gly | Pro | Gly | Gly | Gly | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Thr | Ala | Tyr | Pro | Thr | Ala | Pro | Tyr | Leu | Pro | Asp | Leu | Pro | Phe | Thr | Ala |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Leu | Pro | Pro | Gly | Ala | Ser | Asp | Gly | Arg | Gly | Arg | Pro | Ala | Phe | Pro | Phe |
| | | | 35 | | | | 40 | | | | | 45 | | | |
| Ser | Cys | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | |

<210> 136

<211> 86

<212> PRT

<213> Homo sapiens

<400> 136

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| Cys | Met | Asp | Tyr | Asn | Arg | Thr | Asp | Leu | Thr | Thr | Ala | Ala | Pro | Ser | Pro |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Pro | Arg | Arg | Leu | Pro | Pro | Pro | Pro | Pro | Gly | Glu | Gln | Pro | Pro | Ser | Gly |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Gly | His | Gly | Arg | Pro | Pro | Gly | Ala | Arg | Pro | Pro | His | Arg | Gly | Gly |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Gly | Arg | Gly | Gly | Gly | Gly | Asp | Ala | Ala | Ala | Pro | Pro | Ala | Arg | Gly | Gly |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Gly | Gly | Gly | Gly | Lys | Ala | Arg | Pro | Pro | Gly | Gly | Gly | Ala | Ala | Pro | Cys |
| 65 | | | | | 70 | | | | 75 | | | | | 80 | |
| Glu | Pro | Gly | Cys | Gln | Cys | | | | | | | | | | |
| | | | | 85 | | | | | | | | | | | |

<210> 137

<211> 37

<212> PRT

<213> Homo sapiens

<400> 137

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| Cys | Met | Glu | Ala | Pro | Glu | Asn | Ala | Thr | Ala | Gly | Pro | Ala | Glu | Pro | His |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Lys | Gly | Leu | Gly | Met | Leu | Pro | Val | Ala | Pro | Arg | Pro | Ala | Arg | Pro | Pro |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Asp | Leu | Gly | Pro | | | | | | | | | | | |
| | | | 35 | | | | | | | | | | | | |

<210> 138

<211> 38

<212> PRT

<213> Homo sapiens

<400> 138

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| Asn | Tyr | Leu | Cys | Val | Glu | Ala | Pro | Asn | Asn | Gly | Ser | Asp | Glu | Pro | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Arg | Gly | Ser | Gly | Leu | Phe | Pro | Pro | Leu | Phe | Arg | Pro | Gln | Arg | Pro | His |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Ser | Ala | Gln | Glu | His | Pro | | | | | | | | | | |
| | | 35 | | | | | | | | | | | | | |